

Hitler's Quest for Oil: the Impact of Economic Considerations on Military Strategy, 1941–42

JOEL HAYWARD

When asked by his Allied captors in 1945 to what extent German military strategy had been influenced at various stages by economic considerations, Albert Speer, Hitler's outstanding Armaments Minister, replied that in the case of Operation BARBAROSSA the need for oil was certainly a prime motive.¹ Indeed, even during the initial discussions of his plan to invade the Soviet Union, Hitler stressed the absolute necessity of seizing key oilfields, particularly those in the Caucasus region, which accounted for around 90 per cent of all oil produced in the Soviet Union. For example, during a war conference at the Berghof on 31 July 1940, Hitler revealed to high-ranking commanders his intention to shatter Russia 'to its roots with one blow'² After achieving the 'destruction of Russian manpower', he explained, the German Army must drive on towards the Baku oilfield, by far the richest of those in the Caucasus and one of the most productive in the world.

Despite Hitler's optimism, the 1941 campaign – which opened along a 2,000 km front and involved 148 combat divisions – failed to shatter Russia 'to its roots with one blow'. Consequently, it failed to bring the huge oil region of the Caucasus under German control. After reverses in the winter of 1941/42, it was no longer possible for the *Wehrmacht* to undertake wide-ranging offensives along the entire front, by then over 2,500 km in length. The summer campaign of 1942, although still immense, was necessarily less ambitious. It opened along a front of around 725 km, and involved 68 German and 25 allied combat divisions. Soviet oil remained a major attraction for Hitler. The offensive's objectives were to destroy the main Russian forces between the Donets and the Don river, capture the crossings into the mountainous Caucasus region and then deliver the rich oilfields into German hands. The perceived importance of these oilfields to the German economy, and hence the war effort, cannot be overstated. On 1 June 1942, four weeks to the day before the summer campaign began, Hitler told the assembled senior officers of Army Group South that 'If I do not get the oil of Maikop and Grozny then I must end this war'.³

The purpose of this study is not to provide a narrative description of the planning of the 1942 campaign, but, rather, to reveal the central role

which economic considerations played in the planning of that ill-fated endeavour. In the following pages I shall appraise Hitler's preoccupation with the Caucasus region and its oilfields, and describe how Germany's own oil situation in the first two years of the war led him to believe that the capture of those oilfields was an essential prerequisite to waging a prolonged war of economic attrition. I shall then outline and explain the lengthy planning of the 1942 campaign, which aimed first at protecting the vulnerable Rumanian oilfields – upon which the German war economy was already heavily reliant – and secondly (and more importantly) at possessing the far richer fields in the Caucasus.

I

The immense Caucasus region, larger than Great Britain, is bounded by the Black Sea on the west and the Caspian on the east, and is traversed by the Caucasus Mountains. These massive mountains, many of which rise to over 5,000 m (including Mount Elbrus, at 5,633 m the highest peak in the range), run from the eastern shore of the Sea of Azov, opposite the Crimean Kerch Peninsula, 1,200 km southeasterly to Baku, the capital of present-day Azerbaijan.

The mountains separate the North Caucasus from Transcaucasia. The former, in present-day Russia, comprise mainly steppes, rolling hills and desert lands. During the Second World War, it was a producer of grain, cotton and heavy farm machinery, and its two main oilfields – Maikop, near the Black Sea, and Grozny, near the Caspian – produced about ten per cent of all Soviet oil.⁴ In 1942, the British Ministry of Economic Warfare calculated the annual outputs of these fields to be approximately 2,500,000 tons each.⁵ A pipeline, running from Makhatchkala (320 km north of Baku on the Caspian) to Rostov, connected these two fields. This pipeline was the normal carrier of Caucasus oil to the eastern Ukrainian industrial area, centred around Kharkov. It extended only as far as Rostov, from where the oil was taken westward to Kharkov by boat up the Donets river system, which was, even according to conservative German calculations, suitable for ships and barges of 1,000 tons for much of the way and of 400 tons the rest.⁶

South of the Caucasus Mountains lies the densely-populated region of Transcaucasia, today comprising the nations of Georgia, Azerbaijan and Armenia. In 1942, this heavily industrialized region had a population density greater than that of the state of New York.⁷ Baku, situated on one of the world's richest oilfields, alone produced 80 per cent of all Soviet oil. It actually consisted of several fields, including the new Nebit-Dagh 'oil base' near Krasnovodsk, directly across the Caspian from Baku proper in

the present-day nation of Turkmenistan. Crude oil from this source, accounting for about seven per cent of Baku's total yield, was shipped back to Baku for refining. In 1942, the Ministry of Economic Warfare calculated the phenomenal annual output of Baku's 8,000 wells to be approximately 24,000,000 tons.⁸ A pipeline ran from Baku westward through Tiflis, capital of Georgia, to Batum, a major oil export port on the Black Sea. Oil going to Moscow, Gorkii and the main industrial centres in the west was taken by ship to Astrakhan at the mouth of the mighty Volga river, then up the Volga to its destinations. Oil bound for the industrial areas of the Urals and Siberia was shipped up the Caspian to Gurev, where it travelled by pipeline to Ufa, almost 1,000 km to the north. From there it was taken to its destinations by rail.⁹

Hitler's strong desire throughout 1941 and 1942 to capture these oil-fields was not without precedent. During the last two years of the First World War, Germany experienced critical oil shortages and had to rely on Austria-Hungary and, to a far greater degree, Rumania for much of its supplies. General Ludendorff, whose words reveal the striking similarity between Germany's oil situation in both World Wars, later wrote that during the Great War 'Rumanian oil was of decisive importance.'¹⁰ Unfortunately, he added, 'the production of oil in Rumania had increased to the limits of the possible, but this could not make good the whole shortage.'¹¹ The German High Command therefore needed to obtain a new source, and settled on a plan to seize the Baku oilfield, even then recognized as one of the richest in the world. Before they could achieve this goal, however, the British beat them to it in August 1918 by entering Baku, which they occupied (except when temporarily ousted by the Turks) until well after the end of the war.¹² This lamented Ludendorff, was 'a serious blow for us'.

In order to make sense of Hitler's insistence on the capture of the Caucasus oilfields, 25 years after the first German attempt was abandoned, it is necessary to outline briefly the origin and significance of the *Wehrmacht's* 'Achilles' heel': its lack of oil. German economic strategists realized in the first years of Nazi rule that the nation's heavy dependency on imports of crude oil would be a serious problem in the event of war. In 1934 Germany consumed around three million metric tons of gasoline, fuel oil and various other petroleum products. Around 85 per cent came from domestic crude production, centred largely in the area around Hanover, and from a synthetic oil industry still in its infancy.¹³

Immediately after coming to power the National Socialist government took steps towards self-sufficiency in fuels and lubricants by seeking new wells and encouraging the expansion of the synthetic fuel industry. State subsidies were paid to encourage exploratory drilling within Germany,

which resulted in domestic crude oil production increasing from 238,000 tons in 1933 to 1,052,000 tons in 1940.¹⁴ The Bergius hydrogenation and the Fischer-Tropsch process for the synthetic production of oil had been perfected only in the late 1920s, and at the time the National Socialists came to power only three small plants were in operation. Despite the high cost of producing synthetic fuel, this industry was continuously enlarged throughout the 1930s, so that in 1938 the production of fuels, lubricants and other oil products from coal reached an annual rate of roughly 1,600,000 tons, and by September 1939, 2,300,000 tons.¹⁵

In August 1936, Hitler had addressed a long and rambling memorandum to Hermann Göring, who was then Commissioner of Foreign Exchange and Raw Materials, on the urgent need for Germany to increase its 'defensive capacity' against what he called the Soviet Union's 'will of aggression'.¹⁶ Germany must be 'capable of waging a worthwhile war against the Soviet Union', he stated, because 'a victory over Germany by Bolshevism would not lead to a new Versailles Treaty but to the final destruction, indeed the extermination, of the German people.'

Hitler explained to Göring what he saw as the desperate immediacy of Germany's economic and military requirements and outlined future steps to correct perceived deficiencies. The ultimate solution to Germany's problems, insisted Hitler in terms echoing the views he expounded in *Mein Kampf*,¹⁷ 'lies in expanding the living space [*Lebensraum*] of our people; that is, in extending the sources of its raw materials and food-stuffs.' (in his *Weltanschauung*, or world view, *Lebensraum* did not primarily mean space for settlement, but land and resources for economic exploitation.) The short term goal, he continued to Göring, must be an immediate 'economic mobilization' resulting in Germany's quickly reaching a 'position of political and economic self-sufficiency'. The production of all raw materials essential for modern warfare must be increased. German fuel production, he emphasized, must be increased 'at the fastest pace' and with great determination because 'the future conduct of war will depend on the completion of this task rather than the stock-piling of gasoline.' Hitler concluded by setting Göring two clear-cut tasks: '(1) the German army must be ready for war within four years, and (2) the German economy must be fit for war within four years.'

Göring responded to the memorandum by having his economic staff formulate a detailed 'Four-Year Plan' for the *Reich*'s economic development. This was accepted by the *Führer*, who announced it publicly on 9 September 1936 at the 'Reich Party Congress of Honour' at Nuremberg,¹⁸ and on 18 October he formally placed Göring in charge of its implementation. The latter instructed his staff to formulate a comprehensive strategy for increasing Germany's oil production. This plan provided for an

increase in total production from less than two million tons in 1936 to 4,700,000 tons in 1940. The most important part of this expansion was a planned increase in the amount of synthetic fuel produced by the Bergius hydrogenation process (the only synthetic fuel process which could produce the urgently-needed aviation fuels¹⁹) from 620,000 tons in 1936 to 2,730,000 in 1940.²⁰

On 12 July 1938, the Four-Year Plan was superseded by the Karinhall Plan (named after Göring's imposing manor house in the Schorfheide), which placed far greater emphasis on economic preparations for war.²¹ Realizing that Germany's present consumption of oil had risen to about 7,500,00 tons – and this was in peacetime – Göring's economic strategists resolved to overcome the glaring inadequacy of previous programmes by providing for an increase in the annual output of finished oil products to 11 million tons by the beginning of 1944.²² These production targets were soon revealed to be unrealistic. Consequently, several new oil plans were drawn up, beginning in September 1939 with a revision of the Karinhall Plan and ending in January 1944 with the Mineralöl Plan.²³

Regardless of its extremely high costs (synthetic oil costs four to five times as much as crude to produce), the synthetic oil programme was still considered in the immediate pre-war period to be the best solution to Germany's oil problems, and hundreds of millions of *Reichsmark* were spent on the construction of production plants. At the outbreak of war in September 1939 there were 14 hydrogenation and Fischer-Tropsch plants in operation, with a further six under construction. The output of crude oil was also continuously expanded, and the total yield of oil products from domestic sources at the time amounted to three million tons.²⁴

Despite these intense efforts to improve Germany's oil situation rapidly, in 1938 – the last full year of peace – only about a third of the 7,500,000 tons of oil Germany consumed was produced domestically by synthetic plants and oil refineries. The bulk of the other five million tons still came from the United States, Venezuela and Iran. A smaller, but nonetheless significant amount (451,000 tons), came from Rumania.²⁵ Accordingly, Germany's oil situation received a severe blow in September 1939 when its overseas imports ceased with the imposition of the Anglo-French naval blockade.²⁶

The cessation of oil imports was clearly a major cause of concern among German economists, although its effects were not immediately felt. During the pre-war months of 1939 oil imports from overseas reached an all-time peak, so that despite the blockade from September onwards imports for the year as a whole amounted to 5,165,000 tons, up 200,000 tons from the previous year.²⁷ However, during the following year imports dropped dramatically; only 2,075,000 tons managed to enter the *Reich* in

1940, and this was only from other countries on the Continent. Just over one million tons came from Rumania,²⁸ and another 619,600 tons were imported from the Soviet Union in accordance with the German-Soviet trade agreements of 1939 and 1940.²⁹ Naturally, imports from the Soviet Union ceased immediately when the fury of Operation BARBAROSSA was unleashed on 22 June 1941, although 256,300 tons had already been imported in the first half of that year.³⁰

Rumania, by far the largest oil producer in Europe (excluding the Soviet Union), was the only nation capable of replacing a significant portion of the lost overseas imports. In 1938 Rumania exported 451,000 tons of oil products to Germany. On 23 March 1939 it signed an economic treaty with Germany, and on 27 May 1940 the two nations signed an oil pact.³¹ Accordingly, in 1939 it exported 974,000 tons to the *Reich*. In 1940 this rose to 1,007,000 tons.³² In these last two years Rumania continued to export oil – around 1,500,000 tons each year – to non-Axis nations, but as it drew closer to the Axis powers after Germany's victories in the west in the spring of 1940 these exports dropped off considerably. On 30 August 1940 Rumania participated in the second of the Vienna Awards. On 23 November it acceded to the Tripartite Pact, and on 25 November to the Anti-Comintern Pact.³³ In 1941 Rumania became Germany's strongest economic and military ally when it joined wholeheartedly in the invasion of the Soviet Union. In addition to supplying its own troops at the front, it exported 2,086,000 tons of oil to the *Reich* that year, much of it going direct to the *Wehrmacht* in Russia.

Germany's increasing reliance on Rumanian oil during the first two years of the war was a major source of anxiety to Hitler, who frequently expressed his concern that the Ploesti oilfields in Rumania lay within striking distance of the Soviet Air Force's long-range bombers. 'Now, in the era of air power', he told his generals on 20 January 1941, 'Russia can turn the Rumanian oilfields into an expanse of smoking debris... and the very life of the Axis depends on those fields.'³⁴ We shall see below how Hitler's fear of attacks on Rumanian oilfields by Soviet bombers stationed on the Crimean Peninsula – a fear shared by several of his top commanders – led him to conduct a lengthy campaign in 1942 to 'clear up' the Crimea.

The destruction of Rumania's oil industry would indeed have dealt a catastrophic blow to the German war effort. Oil was by far the most critical item in Germany's war economy, and, in 1940, the first full year of war, 94 per cent of its oil imports came from Rumania.³⁵ Nonetheless, even without the benefit of hindsight it is clear that Hitler's concerns were unfounded, as his own military intelligence should have told him at the time. During the entire war the Soviet Union had, to quote the airpower historian Richard Muller, 'only a rudimentary long-range bombing

capability'.³⁶ The Soviet long-range bomber command had relatively few aircraft, and none with precision bombing capabilities until late 1943. It certainly could not assemble a force of sufficient strength to deliver massed air strikes against the Ploesti installations, which were, in any event, protected by formidable anti-aircraft defences.³⁷ Many raids by Soviet twin-engined, medium bombers were attempted throughout the war, but, as we shall see, these were weak, ineffectual and cost many aircraft.

A far greater potential threat to the Ploesti refineries and plants was an air attack by a large strategic force based in the Mediterranean; but, although Hitler was unaware of it,³⁸ Britain lacked the resources to mount such an attack in the years 1939 to 1941. The threat of actual attacks on Ploesti from the Mediterranean increased – as did Hitler's fear of them – when the United States entered the war. However, although isolated and impotent attacks were made by the United States Army Air Forces in the middle of 1942, a heavy and continuous offensive against the Rumanian oilfields was not begun by the USAAF, assisted by the Royal Air Force, until April 1944.

Another cause of anxiety for Hitler and his military economists was the very small size of Germany's accumulated stock of oil. All pre-war oil planning called for the accumulation of substantial reserve stocks, particularly of aviation fuel for the *Luftwaffe* and diesel fuels for the *Kriegsmarine*. However, at the outbreak of war the planned level had not been reached. Germany had no more than 492,000 tons of aviation fuel in reserve, instead of the planned amount of 1,500,000 tons. Similarly, it had only 1,118,000 tons of diesel and fuel oil instead of the planned figure of 2,800,000 tons.³⁹ Indeed, the total accumulated stock at that point was only about a quarter of the *Reich's* annual consumption in peacetime. The oil reserves decreased dramatically during the first few months of war and subsequently never rose above 1,500,000 tons, which proved far from adequate.

Germany's rapid conquests of Norway, Denmark, the Low Countries and France actually resulted in slight increases – albeit temporary ones – in its meagre reserve stocks of oil. During these *Blitzkrieg* campaigns the *Wehrmacht* consumed relatively little oil, mainly because of the small number of protracted battles and a heavy reliance on horse-drawn supply columns. According to the writers of one text on oil production and consumption, German forces 'managed to win their victories [in 1940] using a mere 12 million barrels of oil products, or about the same as the United States produced every three days.'⁴⁰ Additionally, stocks of oil products captured during the short campaigns, especially that against France, were larger than the amounts consumed. For instance, 250,000

tons of aviation fuel alone (the equivalent of five months' production) were captured during the French campaign.⁴¹

Nonetheless, as Cooke and Nesbit point out, these increases were greatly outweighed by a new, long-term liability. 'Through its conquests', they write, 'the Third Reich had made itself responsible for meeting the oil needs of a whole group of occupied countries, stretching from Norway to the Spanish border, which could no longer obtain supplies from outside Europe'.⁴² When Mussolini bombastically announced Italy's declaration of war on France and Britain on 10 June 1940, Germany's oil situation suffered another reverse. Italy had no significant domestic production of oil and, with the implementation of the Allied blockade which followed its declaration of war, could obtain only negligible amounts from Albania (which it had annexed in April 1939). Thus from June 1940 onwards Italy was almost totally dependent on Germany for oil and, as a result, became a serious drain on the latter's production and stocks.⁴³

II

Unlike the rapid and startlingly successful German campaigns of 1939 and 1940, Operation BARBAROSSA, the massive and ultimately unsuccessful offensive launched on 22 June 1941 to conquer the Soviet Union, seriously damaged the *Reich's* oil reserves. It was simply beyond Germany's ability to satisfy the oil requirements of the approximately 3,600,000 German and allied soldiers (Finns, Italians, Rumanians, Hungarians and Slovaks), about 600,000 vehicles, 3,600 tanks, and over 2,700 aircraft participating in the offensive.⁴⁴ Whereas Germany's war economy was capable of sustaining short *Blitzkrieg* campaigns it could not support the drawn-out war of economic attrition which developed when the Soviet Union did not collapse, as was widely expected by friends and enemies alike, within a few weeks.

The prolonged campaign in the east quickly began to inflict severe economic burdens on the *Wehrmacht*. The production and supply of urgently needed war materials, including oil products, could not keep pace with demand. Moreover, during the eastern campaign German units were unable to utilize captured fuel, as they had during the campaigns of 1939 and 1940. This was because the octane content of Soviet petrol was too low for German vehicles. It could only be used after the addition of benzol in complex installations constructed specifically for that task.⁴⁵

The oil situation of the eastern armies soon became desperate. For example, on 6 September 1941 Hitler issued War Directive 35, which outlined Operation TAIFUN, the resumption of the offensive against Moscow.⁴⁶ Five days later, *Generaloberst* Franz Halder, the German

Army Chief of Staff, recorded in his war diary that the eastern forces needed 27 trainloads of fuel per day throughout the rest of September and 29 per day throughout the entire following month if they were to carry out the new offensive successfully.⁴⁷ However, wrote Halder, the High Command of the Armed Forces (*OKW*) argued that it could not supply this enormous quantity. It could supply only 22 trainloads daily for the period of 16 September and, while it could provide the required 27 trainloads per day for the last two weeks of that month, it could supply only 22 per day (less than 75 per cent of those required) for the whole of October. For November, when the daily requirements were estimated to be 20 trainloads, the *OKW* believed that only three (or 15 per cent of the required level) could be supplied each day.⁴⁸ As it turned out, the *OKW* failed to supply even these lower quantities to the eastern forces.

Although the German Army had yet to lose a single major battle on the eastern front, it was already painfully clear to German military planners by October 1941 that the *Blitzkrieg* against the Soviet Union had failed. Moreover, it was also clear by this stage that both German and Rumanian oil reserves were exhausted, and that current oil production in both nations was insufficient to satisfy the requirements of the *Wehrmacht* and industry (as well, of course, as civilian consumption). Rumania's oil supplies to the *Reich* had increased from 150,800 tons in June 1941 to 361,600 tons in August, but this increase was only possible because Rumania reluctantly supplied Germany with a large portion of the oil earmarked for its own domestic consumption, which was exhausted by late September.⁴⁹ Accordingly, deliveries to the *Reich* decreased after that point. They dropped from a peak of 361,600 tons in August to 222,800 in October. In November they dropped further to 213,000 tons and, in December, when these problems were exacerbated by a short-lived quarrel between Germany and Rumania over payment, to a mere 104,000. In January 1942, they rose slightly to 111,000 tons, but fell sharply in February, when only 73,000 tons were delivered to the *Reich*.⁵⁰ Although deliveries gradually rose again from this low point, the dramatic drop in the last months of 1941 proved almost disastrous for the German war effort.

Even before the eastern campaign started, German economists had been predicting these problems and issuing clear warnings to military planners. In March 1941, by way of illustration, *General der Infanterie* Georg Thomas, head of the War Economy and Armaments Office, had warned both Göring and Keitel in a detailed report that stocks would be exhausted by late October.⁵¹ From that time onwards, he argued, it would no longer be possible to offset the significant shortage of oil. The only possibility of alleviating the desperate shortage in the event of a protracted

war was for Germany to exploit Soviet oil production. 'It is crucial', Thomas insisted,

to seize quickly and exploit the Caucasus oilfields, at least the areas around Maikop and Grozny. In oilfields that have not been completely destroyed, it will take about a month to resume production, and another month for its transport; the areas concerned will have to have been seized by us by no later than the end of the second month of operation: this includes transport facilities (tankers on the Black Sea, an operational route from Odessa to Przemyśl on a Russian gauge so as to take advantage of Russian stocks of tank wagons). If this is not successful, we must expect the most serious repercussions, with unpredictable consequences for military operations after 1.9.[1941] and for the survival of the economy.⁵²

Although many members of the German High Command believed in July that the Soviet armed forces were close to total collapse – for example, on 3 July the normally cautious Halder jubilantly penned in his diary that 'it would probably be no exaggeration to say that the campaign against Russia has been won within the first fortnight'⁵³ – by late August it was clear that the eastern campaign was still far from a successful conclusion. On 26 August Thomas, whose earlier predictions were now proving correct, submitted to the *OKW* a new report on the oil situation. He argued that the small and rapidly diminishing reserve stocks still available to Germany would be exhausted in the following months (a correct assessment, as noted above) and that current production levels were insufficient to satisfy demands. Moreover, he stated, even if production were 'pushed to its limits it would be impossible to supply all the required oil. Accordingly, our only option is to cut consumption in accordance with the availability of supplies.'⁵⁴ Cuts were to be made in all areas not directly affecting front-line military operations. The home requirements of the *Wehrmacht*, deliveries to Italy and to all other European countries dependent on Germany, as well as the civilian economy, were affected by this rationing. Accordingly, warned Thomas, these drastic measures would result in considerable 'political, military and economic disadvantages'.⁵⁵

Four days after Thomas submitted this report to the *OKW*, he attended a meeting with *Generalmajor* Eduard Wagner, the Army's Quartermaster General, who explained that Army Groups South and Centre on the eastern front were experiencing critical fuel shortages, a situation exacerbated by major rail transportation problems.⁵⁶ Wagner was of the opinion, nonetheless, that oil requirements for the following months could still be met if additional reductions were made in the consumption of the civilian and non-operational military sectors, as well as of the occupied territories.

Despite this encouraging opinion, Wagner's conclusion was bleak: by the beginning of 1942 oil supplies would be exhausted and 'new oilfields would have to be captured'.⁵⁷

In order to satisfy requirements for the campaign in the east, the oil quota for the civilian economy had, in fact, already been reduced by around ten per cent in May 1941. 'The supply of fuel for the civilian sector is not at all going smoothly', Halder glumly jotted in his diary on 20 May.⁵⁸ Indeed, a month later Walther Funk, the Economics Minister, expressed to Jodl, head of the *OKW* Operations Staff, his deep concern that the economy was now receiving 'even less than 18 per cent of peacetime consumption' and that the requirements of the economy had been 'threshed to the limit'.⁵⁹ However, despite conveying to Jodl his 'gravest misgivings about any further curbs', Funk was unable to prevent cuts in the quota for the civilian sector made during the ensuing period. So extensive were these cuts that British Air Ministry observers secretly referred to them early in 1942 as 'the severest form of rationing'.⁶⁰

On 7 October 1941, even as *Generalfeldmarschall* von Bock's Panzer spearheads sealed off massed Soviet forces in the Vyazma and Bryansk pockets (one of the most devastating double envelopments in military history), Thomas submitted another lengthy report on the constantly deteriorating oil situation. It was possible, the report stated, to satisfy requirements of urgently needed aviation fuel and lubricants until the end of the year. Nonetheless, this would leave only 31,000 tons of these products to start off the new year, a dangerously low level and a huge drop from 1 October, when there had been 181,000 tons.⁶¹ Although there were still 289,000 tons of motor and carburettor fuel available, current production levels were insufficient to prevent this stock being completely exhausted by mid November. Accordingly, by the end of that month there would be a shortfall of 32,000 tons, which would increase to as much as 97,000 tons by the end of December. These were not the only critical fuel shortages. On 1 October there were fewer than 250,000 tons of diesel available, and, at current rates of consumption, shortages of this fuel would be around 25,000 tons at the end of November, rising to 50,000 tons at the end of December. Similarly, while the heating oil situation was not yet desperate, production levels remained low and stocks were rapidly decreasing. It was clearly no longer possible to supply anything close to the 100,000 tons of heating oil the Italians emphatically stated that they needed each month. Thomas predicted that only 60,000 tons could be delivered to Italy in October, and 55,000 tons per month in November and December.⁶²

To complicate matters, the oil situation of the *Kriegsmarine* had also grown slowly worse through 1941 (matching its fortunes against the

Royal Navy). By late October it had become critical. On 13 November, *Großadmiral* Erich Raeder provided Hitler with a lengthy situation report, which contained a detailed analysis of the Navy's 'very difficult oil situation'.⁶³ The Navy's total stock of diesel oil (106,000 tons) and imports from Rumania (45,000 tons in November) were still sufficient to satisfy its current requirements. However, its total stock of fuel oil had dropped considerably to 380,000 tons, of which only about 220,000 tons were ready for use without additional treatment. Monthly supplies of fuel oil to the Navy were insufficient to satisfy its requirements, and in November alone the shortfall for both the German Navy and its Italian counterpart (supplied by Germany and Rumania) would come to 116,000 tons.⁶⁴ Despite his grave concerns about his own Navy's terrible oil situation, Raeder added stoically that he had complied with Keitel's recent order to transfer a further 30,000 tons of fuel oil to the Italian Navy.

On 12 December, Raeder, who was painfully aware that the Navy's oil needs were considered by Hitler and his closest military advisers to be far less important than those of the massive armies on the eastern front, nonetheless informed the *Führer* that the Navy's oil situation had now become 'very critical'.⁶⁵ Its requirements, he pointed out, 'have been cut by fifty per cent.' This, he added sharply, was causing 'an intolerable restriction on the mobility of our vessels.' He was clearly disappointed that, despite this distressing situation and the temporary cessation of oil deliveries from Rumania, '90,000 tons will have been handed over to the Italians' by 1 January 1942.

Thus it was clear to Hitler and his economic and military planners during the closing months of 1941 that the unexpectedly prolonged campaign on the eastern front had severely weakened Germany's oil situation. Moreover, they were acutely aware that oil shortages were now affecting the operational capability of even the troops in the east still struggling to deliver the final knockout blow to the Soviet armed forces. During a meeting between Wagner and the War Economy and Armaments Office on 22 October, for example, it was revealed that the forces on the eastern front, still slogging forward with dogged tenacity in clothing unable to keep out the bitterly cold wind and rain, were consuming far more fuel than previously calculated.⁶⁶ This greater consumption was the result of worn-out engines, difficult terrain and appalling weather (it was already several weeks into the muddy season in central European Russia). The army was now able to cover only around 35 to 40 km on the amount of fuel considered sufficient for 100 km, which naturally meant that far more fuel had to be supplied. It was estimated that no less than 20 trainloads were needed per day by the troops in the east. However, even if this quantity of fuel were available (and it was not), increases in

deliveries could not be made because of transportation problems on the eastern railways. Dozens of loaded trains were backed up, waiting for railway pioneer troops and battalions of the *Reich* Labour Service and Organization *Todt* to regauge rail lines, sidings and marshalling areas to the German width and to organize truck columns connecting rail heads with the constantly moving troops. This problem was exacerbated by the activities of Russian partisans, who did considerable damage to railways used by the Germans. Because the needed increases in fuel deliveries could not be attained, troop mobility (particularly in Army Group Centre) began to suffer. As it happened, this logistics problem actually proved to be a blessing in disguise: when German fuel supplies came close to total exhaustion in mid November, this backlog of trains (around 120 by then) served as an unexpected reserve and was able – to the relief of several worried corps commanders – to keep the eastern armies supplied.

On 3 November, while von Bock's exhausted and frozen Army Group Centre was preparing for its final drive on Moscow, *Generalfeldmarschall* Walther von Brauchitsch, the beleaguered and soon-to-be-relieved Commander-in-Chief of the Army, paid a visit to the headquarters of Army Group South. This mighty force, commanded by the aloof and aristocratic *Generalfeldmarschall* Gerd von Rundstedt, occupied much of central and eastern Ukraine and most of the Crimea. It was still advancing slowly eastward towards strategic objectives considered by Hitler to be more important than Moscow (which he had characterized back in July as 'merely a geographical concept').⁶⁷ To the dismay and frustration of many of Hitler's military advisers,⁶⁸ these objectives (economic rather than military) included Kharkov, the fourth largest industrial centre in the Soviet Union; the Donets Basin, famous for its coal and iron industries; and the oil-rich Caucasus region. For instance, in his supplement to War Directive 34, dated 21 August 1941, Hitler had stated:

The most important aim to be achieved before the onset of winter is not the caputre of Moscow but, rather, the occupation of the Crimea, of the industrial and coalmining area of the Donets basin, the cutting of the Russian supply routes from the Caucasus oilfields, and, in the north, the investment of Leningrad and the establishment of contact with the Finns.⁶⁹

Attacks on the Rumanian oilfields and refineries were clearly still preying on Hitler's mind, because he emphasized in this supplement that 'the capture of the Crimean Peninsula is of extreme importance for safeguarding our oil supplies from Rumania'. The very next day he returned to this theme in a different document:

Apart from the fact that it is important to capture or destroy Russia's iron, coal and oil reserves, it is of decisive importance for Germany that the Russian air bases on the Black Sea be eliminated, above all in the region of Odessa and the Crimea. This measure can be said to be absolutely essential for Germany. Under present circumstances no one can guarantee that our only important oil-producing region is safe from air attack. Such attacks could have incalculable results for the future conduct of the war.⁷⁰

Similarly, two days later he explained to *Generaloberst* Heinz Guderian the absolute need to neutralize the Crimea, 'that Soviet aircraft carrier for attacking the Rumanian oilfields'.⁷¹ the significance of Hitler's constant fear of Soviet air attacks on his main source of oil by Crimean-based bombers will become apparent below, when we discuss the reasons for the time-consuming 1942 campaign to capture Sevastopol and the Kerch Peninsula.

When Kharkov fell to von Reichenau's Sixth Army on 24 October, Hitler was delighted. However, when von Stülpnagel's Seventeenth Army (on the Sixth Army's right flank) moved into the Donets Basin, it discovered that much of the industrial machinery was gone. Many plants had been sabotaged, while hundreds of other industrial enterprises had been taken apart by Soviet engineers and technicians – in accordance with the instructions of the Soviet Council for Evacuation – to be reconstructed at locations in the distant region of the Urals. This outstanding achievement, which required (in Nikita Khrushchev's words) a 'superhuman effort and total co-operation', has received little scholarly attention, yet it must rate as one of the Soviet Union's greatest wartime achievements.⁷²

Cheated of his anticipated spoils, Hitler insisted that Army Group South push on towards his other objectives in southern Russia. During his visit to this Army Group on 3 November, von Brauchitsch, although unhappy at being Hitler's mouthpiece, informed its stunned command staff that the Supreme Command and the High Command of the Army (*OKH*) still wanted the areas around Maikop (the northernmost of the Caucasus oilfields) and Stalingrad to be 'captured at all costs this winter'. Accordingly, he continued, 'ways and means of attaining these objectives would have to be found. In the case of Maikop, oil is naturally the incentive; in the case of Stalingrad [it is] the urgent necessity of destroying the Russian command's last "major" north-south link.'⁷³

Army Group South continued to claw its way eastward. Almost three weeks later, on 21 November, units of *General der Kavallerie* von Mackensen's *III. Armeekorps* (from von Kleist's First Panzer Army) occupied Rostov, at the mouth of the Don river. Despite intense resistance,

they even managed to capture intact the main bridge over the Don leading to the south, towards the Caucasus. Not knowing that these numerically weak units would soon be driven from the city (it was retaken just eight days later) and that his Corps would be savagely mauled by the powerful Soviet Southern Front, von Mackensen believed he had cut the Russian supply routes from the Caucasus and, accordingly, saw his victory at Rostov as a major blow against the Soviet war machine. On the day that he took the city, he issued this Daily Corps Order:

Soldiers of the III. Panzerkorps! The battle for Rostow has been won! ... Not icy wind or biting frost, not insufficient winter clothing or equipment, nor dark, moonless nights, not tanks, mortars, nor thousands of mines or field installations, which took the enemy weeks to build and the extent of which we all saw, none of that, and least of all the Red Army itself, was able to stop your triumphant march. ... We have finally cut off any effective contact to the Caucasus for the Russians. Now the task is to hold what we have captured so that we may open the gate to new victories.⁷⁴

Hitler, also largely unaware of the coming Soviet counteroffensive, was just as optimistic as von Mackensen. The Caucasus oilfields, the nearest of which was now tantalizingly close (just 300 km away), were still at the forefront of his plans for Army Group South. On the day it took Rostov, he gave this already overstretched force, together with the First Panzer Army and the Eleventh Army (the latter commanded by von Manstein, arguably his most brilliant general), the unachievable task of cutting off 'even the British and Soviet links over the Caucasus', beginning with the oilfields around Maikop. The Seventeenth Army was given an equally unreasonable task: the capture of Stalingrad and its surrounding industrial areas, in order to 'cut off the enemy's north-south link on the Volga.'⁷⁵

The successes of Army Group South, culminating in the capture of Rostov, had not gone unnoticed by Soviet military strategists, who recognized the severe threat to their oilfields. 'If Germany succeeds in taking Moscow', explained Marshal Timoshenko in a secret speech to the Supreme Defence Council in Moscow,

that is obviously a grave disappointment for us, but it by no means disrupts our grand strategy. ... Germany would gain accommodation [that is, shelter from the cruel Russian winter], but that alone will not win the war. The only thing that matters is oil. As we remember, Germany kept harping on her own urgent oil problems in her economic bargaining with us from 1939 to 1941. So we have to do all

we can (a) to make Germany increase her oil consumption, and (b) to keep the German armies out of the Caucasus.⁷⁶

The immediate task of the Red Army, he continued, was to throw the Germans back just far enough to destroy the caches of tanks and ammunition they had built up for their intended offensive into the Caucasus.

The Red Army's offensive in the south, when it finally came, liberated Rostov and threatened to inflict enormous damage on the units of Army Group South as it drove them back westward. On 29 November, after their forces recaptured Rostov, Timoschenko and Khrushchev jubilantly issued an order to the troops of the Southwest Front. 'The armoured bloodsucker von Kleist', they declared with typical Soviet rhetoric (and exaggeration),

attacked in the direction of Rostow and the group under Schwedler moved toward Woroschilowgrad in the devious enemy's attempt to break the resistance of the units of the Red Army, to capture the Don basin and Rostow, and to make his way to the grain stores of the northern Caucasus and the oil wells of Grosnij [*sic*] and Baku. ... [However,] in several days of bloody fighting, the units of the Red Army ... have dealt the enemy mighty blows, destroyed his best regiments and divisions, and plunged the remnants of the [Panzer] Group von Kleist, the select dogs of the deranged German fascists, into incurable misery.⁷⁷

The Soviet recapture of Rostov (the first major defeat suffered by the German Army in any war theatre up to that time) shattered Hitler's hopes of capturing and exploiting the Caucasus oilfields for the oil-starved *Reich* – or even cutting off the Soviet Union's ability to transport oil from the Caucasus to its armies and factories – before the end of 1941. On 29 November, even as German troops were hastily evacuating Rostov in the face of overwhelming Soviet forces, Army Group South reported that, while its winter line will 'more or less remain the same' (aside from some inevitable local changes), 'the plan to clear out the Donets bend or reach Maikop will not now be carried out.'⁷⁸ The following day, Von Rundstedt informed the *Führer* that, because of heavy losses of men and equipment, the vastly superior strength of the enemy's forces and the appalling weather, Army Group South was forced to suspend all 'operational movements'. It was, he wrote, going over to the defence 'on a tactically-acceptable line' (that is, a withdrawal to the line of Taganrog–Mius River–Bachmut). Hitler was (in Halder's words) 'in a state of extreme agitation over the situation', and angrily forbade this withdrawal.⁷⁹ Von Rundstedt, whose greatest concern was the safety of his already-

suffering troops, replied via von Brauchitsch that he could not comply with Hitler's order and asked that either the order be changed or he be relieved of his post. Hitler saw this as a direct challenge to his authority and, on 1 December, stripped von Rundstedt of the command of the Army Group and replaced him with *Generalfeldmarschall* von Reichenau (formerly in command of the Sixth Army).⁸⁰ As it turned out, von Reichenau also realized the hopelessness of the situation and pleaded with Hitler to withdraw his men to the line of the Mius river. This time the *Führer* relented, and the hard-pressed forces around Rostov moved back to more defensible positions. Halder's diary entry for that day reveals his loathing of Hitler's erratic behaviour: 'Now we are where we could have been last night. It was a senseless waste of strength and time, and, on top of that, we also lost von Rundstedt.'⁸¹

This withdrawal to the Mius was a bitter pill for Hitler to swallow, who now realized that the oilfields of the Caucasus had slipped from his grasp, at least until the following year. He had actually feared this outcome for some time, despite his renewed optimism in the period immediately following the German capture of Rostov. On 7 November, when he still believed BARBAROSSA could (and craved that it *would*) be brought to a successful conclusion in 1941, he complained to the rapidly failing von Brauchitsch (who suffered a serious heart attack the following day) that the seizure of the oilfields would have to be delayed until the following year.⁸² Similarly, on 19 November he informed his most senior advisers that the first objective for 1942 would be the Caucasus oilfields, and that the campaign launched for this purpose in March or April would aim to take German forces right to the 'Russian southern frontier' (that is, the Soviet-Iranian border).⁸³

In the first week of December, the defeat at Rostov paled into insignificance against events unfolding along the entire eastern front. In the far north, the vanguard of von Leeb's Army Group North was on the verge of encirclement at Tikhvin, east of Leningrad, forcing an angry Hitler to permit the retreat of these endangered forces towards 'Lenin's city'. Things were even worse in the region of Army Group Centre. In the middle of November, the first solid frosts had permitted a renewal of the offensive against Moscow, and by the end of the month the fall of the city appeared certain. However, the exhausted Germans were halted within sight of the Kremlin's glittering towers by a devastating combination of, on the one hand, diminishing troop strengths, major supply difficulties, savage frosts (of around -35°C) and paralysing blizzards; on the other, the courage and tenacity of warmly-clothed and steadily-reinforced Soviet troops desperately fighting side by side with terrified Muscovites to save their capital.

On 6 December, the Soviets launched their massive counteroffensive (over 100 Soviet divisions were thrown into battle in the area of Army Group Centre alone), which lasted until the middle of April 1942 when it petered out and the Germans were themselves able to prepare a renewed offensive. Hitler, stunned by events in the east but trying to maintain a confident air in front of his generals, discussed with Halder the need of rehabilitation for the troops and argued that, while this was indeed necessary, he still had objectives to be attained during the winter. The oil of the Caucasus continued to feature prominently in his far-fetched plans; as well as eliminating the Ladoga Front near Leningrad and linking up with the Finns, he said the Donets bend in the south had to be secured, 'as a jump-off base for Maikop'. The following day, 7 December, Hitler was still talking inanely about renewing the drive to the south. 'We must take the Maikop oil region', he stated. 'Rostov should not be written off for this winter. . . . With decent weather we can launch counterattacks.'⁸⁴

On 8 December, Hitler, apparently resigned at last to the failure of his *Blitz* campaign in the east, issued War Directive 39 to the three services.⁸⁵ In this he acknowledged that the merciless winter, and the consequent difficulties in bringing up supplies, compelled his forces 'to abandon immediately all major offensive operations and to go over to the defensive.' Although it outlined steps to be taken towards the rehabilitation of troops, even a cursory reading reveals that Hitler did not intend there to be any major withdrawals in the east. Indeed, only two days earlier he had remarked that 'the Russians have not voluntarily abandoned any ground; we cannot do it either. In principle, there can be no reduction in the line.'⁸⁶ War Directive 39 firmly stated that there could be no withdrawals unless rear areas had been prepared which offered troops 'better living conditions and defence possibilities'. Given the difficulty of preparing such rear areas in the snow-covered Soviet wastelands, where the earth was frozen solid, very few of the tortured units at the front were able to move back.

Hitler was furious with commanders who appeared to disobey his order. On 15 December, for example, after hearing that von Bock was issuing orders to evacuate positions along Army Group Centre's hard-pressed front, he sent an angry message to the Field Marshal's headquarters, requiring him 'to issue the following instructions to the organizations in his command: "Stand and fight! Not another yard backward!"'⁸⁷ His anger at senior commanders culminated in his so-called *Haltebefehl* (or 'stand-fast order') of 16 December, in which he ordered the 'front to be defended down to the last man'.⁸⁸ He even sacked those commanders – including Guderian, his ablest Panzer commander – who ignored repeated demands to stand fast.⁸⁹ As it turned out, however, many of Hitler's

senior commanders, including *Generalfeldmarschall* Keitel, were later to admit that his rigid *Haltebefehl* – which they considered insane at the time – was the right decision.⁹⁰

War Directive 39 also sheds considerable light on the topic at hand: Hitler's pursuit of Soviet oil. It reveals that, even despite the dreadful battering his worn-out forces were receiving in the east, he still held fast to his goal of taking the Caucasus oilfields during 1942. In order to free the bulk of von Manstein's Eleventh Army for future missions, Sevastopol, the Soviet Union's main naval base and shipyard on the Black Sea, was to be captured as soon as possible. Then, 'in spite of all difficulties', Army Group South

must endeavour to establish conditions which, in favourable weather, even during this winter, would make it possible to attack and capture the Lower Don-Donets line. This would provide favourable conditions for operations against the Caucasus in the spring.

The same day that Hitler issued this directive, the Operations Division of the *OKH* issued its own instructions to the troops in the east, which comprised guidelines for 'securing the occupied territories in the most advantageous, economical defence front' and rehabilitating the army over the winter months.⁹¹ These detailed instructions – entitled 'Directives for the Tasks of the Eastern Army in the Winter of 1941/42' – were intended to clarify the nature and purpose of the operations outlined in Hitler's often-vague directive, and to describe how front-line commanders should go about implementing Hitler's instructions. As such, they do not deviate from Hitler's strategy; rather, they support his unpopular views on the situation in the east and direct the three army groups to undertake missions in accordance with his strategic ambitions. Army Group North was to continue its current operation south of Lake Ladoga, link up with the Finns and thus deprive Leningrad of its supply routes. Army Group Centre was to discontinue all offensive operations (which it had already done) and establish a defensive front against Soviet counteroffensives. Mobile divisions were to be rehabilitated behind the left flank of Army Group South in order to prepare them for possible intervention in the event of a Soviet offensive from the Voronezh area. Army Group South, as well as preventing a Soviet breakthrough between the Donets and the Sea of Azov, was to hold Kharkov and, in co-operation with units of Army Group Centre, secure the important Belgorod–Kursk railway. Moreover, the Crimea would have to be made secure, even after the capture of Sevastopol by Manstein. Most importantly (for the purposes of this study), Army Group South was to retake Rostov and the Donets

Basin to the north-east, in preparation for a future drive down into the Caucasus to capture the Maikop oilfields.

III

It became clear towards the end of the 1941/42 winter that Soviet counter-offensives, despite the terrible destruction they inflicted, were not going to dislodge the bulk of the strained and exhausted German forces still stretched out along an enormous front running from Leningrad to the Sea of Azov. Accordingly, military planners and intelligence officers on both sides began making preparations for the coming spring and summer.

Even at his bleakest moments late in that harsh winter, Hitler's thoughts were with the coming spring offensive. On 3 January 1942, while the Soviets continued to penetrate German lines along the entire eastern front, he confided his plans to Oshima Hiroshi, the Japanese ambassador to Berlin. For the time being, he told Oshima, he would not conduct another offensive in the centre of the front, but was instead 'determined to take up again the offensive in the direction of the Caucasus as soon as the weather is favourable.'⁹² It was absolutely vital to get first to the Caucasus oilfields and then to those in Iran and Iraq. Not only would this greatly improve Germany's oil situation and damage the Soviet Union's, but it would cause the collapse of the Allied position in the Middle East and possibly unleash a freedom movement within the Arab world. Naturally, he added, he would also do everything possible to destroy Moscow and Leningrad. Two weeks later, on 18 January, Hitler disclosed these intentions to von Bock before the latter flew to distant Poltava to take command of Army Group South, following the untimely death of von Reichenau. Von Bock, whose rebuilt Army Group would carry out the coming offensive, was given two missions: 'to hold for the present and attack in the spring.'⁹³

Despite such optimistic-sounding statements about another campaign in the east, throughout December 1941 and the first four or five weeks of 1942 Hitler was racked with doubts as to whether his eastern armies could still be saved. Although months later he admitted to close friends and confidants that during the height of the winter crisis he sometimes doubted that he could stave off a catastrophe,⁹⁴ he was careful to keep these doubts hidden from his generals and, of course, the German public. In a rousing speech he delivered in the *Berliner Sportpalast* on 30 January 1942, the ninth anniversary of his election to power, he spoke of his 'unbounded confidence, confidence in my own person, so that nothing, whatever it may be, can throw me out of the saddle, so that nothing can shake me.'⁹⁵ This speech, an inspired Goebbels penned in his diary, was as

successful as those of the early 1930s. It 'charged the whole nation as if it were a storage battery. ... As long as he lives and is among us in good health, as long as he can give us the strength of his spirit, no evil can touch us.'⁹⁶

By the middle of February, even though Soviet offensives continued to inflict heavy damage on German forces, Hitler had shaken off the depression that gripped him in December and January and was regaining his confidence.⁹⁷ He was encouraged by the success of Rommel's brilliant counterattack at El Agheila in Libya on 21 January, which caught the British Eighth Army off guard and within ten days forced it to abandon all its recent gains in the Benghazi bulge. On 12 February, he was thrilled by the escape of the *Gneisenau*, *Scharnhorst* and *Prinz Eugen*, which dashed from Brest through the English Channel in broad daylight to safer waters in Norway. He could take personal pride in the success of this daring operation; the idea of these capital ships dashing through the Channel under the nose of the British had been his own. He was also heartened on 15 February by the news that the United Kingdom had suffered the worst military defeat in its history: the fall of Singapore to the Japanese army. During that same period the Japanese inflicted similar humiliations on the Americans in the Philippines.

German fortunes on the eastern front also began to look promising. Repeatedly situations that appeared extremely perilous were, by means of superior tactics and incredible endurance, stabilized and brought under control. Some were even transformed into minor successes. Hitler was especially pleased with the eventual success of Army Group Centre's attempts to close the gaps in its line and form a new front. Although he knew that German and Soviet forces would remain locked in bloody battle for some time yet, and in places his men were only barely holding on, he felt that the worst was over and that he had accomplished his first objective; he had arrested the widespread panic among his generals and prevented a rout similar to Napoleon's in 1812. Moreover, he regarded his armies' successful resistance to the Soviet winter offensive as further proof that his 'stand-fast' order was the right decision and that the generals he dismissed were incompetent, cowardly and defeatist. His iron will had mastered the winter crisis, he believed. Now it would drive the summer offensive.

The plan for a major offensive into the Caucasus to seize the oilfields was, to a much greater extent than the previous year's attack on the Soviet capital, Hitler's own strategic conception. Keitel, who thought the plan had considerable merit, wrote in his memoirs that the *Führer* 'conceived the idea entirely alone'.⁹⁸ During the height of the winter crisis Hitler had unfairly but repeatedly cursed the General Staff for having imposed its

Moscow campaign on him. Now that he had pulled Germany back from the brink of disaster he was determined to trust his instincts and order a campaign to attain his own strategic objectives (which were clearly shaped by his awareness of the *Reich's* economic problems). Moreover, he would no longer limit himself to issuing general instructions, but would, in his new capacity as Commander-in-Chief of the Army (since von Brauchitsch's resignation on 19 December), take complete and immediate charge of the direction of operations.⁹⁹

Operation BARBAROSSA had been conceived in basic accordance with Clausewitz's fundamental rule of warfare that the proper objective of a campaign is the defeat of the enemy's military forces in the field and that the seizure of economic and political objectives must follow, not precede, this. However, Hitler's decision in the winter of 1941/42 to seize the Caucasus oilfields, rather than force a decisive battle on the Soviet armed forces, violated Clausewitz's rule. He was certainly not unaware of Clausewitz's dictum. Indeed, he was well versed in military theory and has studied most key works in this field, including Clausewitz's masterpiece, *Vom Kriege*. On occasions he would pompously point this out to generals who challenged him on matters of strategy. 'There's no need for you to try to teach me', he lectured Guderian (whose own book on armoured warfare had greatly impressed him) during one particular disagreement. 'I've studied Clausewitz and Moltke and read all the Schlieffen papers. I'm more in the picture than you are!'¹⁰⁰ His decision to avoid a confrontation with the bulk of the Soviet forces and aim instead at the conquest of the Caucasus in order to exploit its economic resources was based, not on ignorance of the basic tenets of military theory, but on deep concern over his struggling economy and the perceived lack of feasible alternative strategies.

Frightful losses in the winter of 1941/42 meant that the *Wehrmacht* was no longer able to undertake wide-ranging offensives along the entire eastern front. By 31 January 1942 the armies in the east had suffered 917,985 casualties, including 28,935 officers, and the eastern *Luftwaffe* fleets had suffered 18,089.¹⁰¹ Although large numbers of replacements were sent in the following months, they were nowhere near enough to offset the losses inflicted during the height of the winter crisis, let alone rebuild adequate reserves. The loss of *matériel* was also a source of grave concern: 424 tanks were knocked out in the first three weeks of December alone, a rate of destruction that continued well into January. Various endeavours were undertaken to replace these tanks, but their effects were not immediately felt. On 30 March, the *OKH* reported that the 16 Panzer divisions deployed in the Soviet Union were left with only 140 operational tanks between them, which was fewer than the usual complement of

a single division.¹⁰² Moreover, the mobility of the eastern armies was restricted by huge losses of horses and motor vehicles. By the end of January, 101,529 vehicles had been destroyed, including 42,851 motor-cycles, 28,942 cars and 41,135 lorries. Again, despite increases in production, these losses simply could not be offset. Indeed, once the objectives of the summer campaign were agreed during early spring, the units of Army Groups North and Centre were deprived of most of their motor vehicles in order to ensure that Army Group South, which was to carry out the offensive, regained at least 85 per cent of its former mobility. The removal of so many motor vehicles naturally led to a significant reduction in the combat effectiveness of Army Groups North and Centre, a situation exacerbated by the shortage of horses and fodder. Supply stocks were almost exhausted, and transportation difficulties held up the delivery of weapons and equipment already loaded on trains.

As a result of these problems and his realization that the German economy now had to cope with a prolonged war of economic attrition, Hitler issued an order on 10 January 1942 for the reorganization of the armaments industry.¹⁰³ The long-term objective was still 'the build-up of the *Luftwaffe* and *Kriegsmarine* for the purpose of fighting the Anglo-Saxon powers', but the 'strategic demands of 1942 make it impossible, for the time being, to attain this objective through a reduction of armaments destined for the Army.' On the contrary, the Army would have to be given a disproportionately large share of manpower and armaments so that it could accomplish 'the strategic tasks of 1942'. In order to satisfy the 'increased needs of the Army', the order continues, it might be necessary at times to make cuts in the allocations of armaments to the Air Force and the Navy. The former was to continue its current programmes, except for 'a temporary curtailment of its ammunition and bomb production in all classifications where a sufficient supply exists'. Similarly, the latter was simply to concentrate on the construction and maintenance of U-boats, and, 'because of the supplies on hand', there was to be a curtailment of the supply of ammunition in favour of the Army. The Army itself was to be made ready for offensive commitments by 1 May 1942. As well as assuring that the Army would have supplies sufficient 'for about four months' continuous operations', it was necessary to build up a 'backlog of ammunition (excluding the original allotment) amounting to six times the average monthly consumption of the eastern campaign ... for the main weapons.'

Despite the long-term benefits of this reorganization of the armaments industry, which gave the highest priority to the acquisition of coal and oil, it could not, of course, immediately change the condition of the German Army. At the end of March 1942, only eight of the 162 divisions deployed

on the eastern front were fully operational for the coming offensive. Three more could be brought up to full offensive capability after a short rehabilitation period, and 47 could perform limited offensive tasks. The other 104 divisions could be deployed only for defensive duties.¹⁰⁴ Accordingly, in the late winter and spring of 1942, it was clear to Hitler and his military planners that it was simply no longer possible to conduct a wide-ranging offensive in the east which would force a decisive battle on the Soviet armed forces. Therefore if an eastern offensive were to be conducted at all in 1942, and there exists no evidence that the German High Command ever seriously considered the eastern forces' adopting an essentially defensive posture, the one choice left to be made was in which sector to strike. Only Hitler's proposed drive to the Caucasus offered a solution to the glaring problems of the war economy, which were growing worse with every passing month. If the oilfields could be captured, their output would certainly relieve the terrible shortage of oil products currently experienced by both Germany and Italy, and also allow their armed forces to continued the prolonged struggle against the growing list of nations now at war against them.

Germany's need for oil was certainly great. In 1941, its total supply had amounted to 8,929,000 tons, which, although up a little from 8,200,000 tons in 1939, was nowhere near enough to meet the needs of both the civilian economy and the armed forces. Indeed, for the protracted eastern campaign it had been necessary to withdraw over a million tons from the nation's meagre reserves, leaving them exhausted by the end of the year.¹⁰⁵ At the beginning of 1942, stocks for all civilian and military purposes were down to a dangerously low level of 797,000 tons (excluding marine diesel), which was around half the reserve amount of the previous year and barely enough for one month's consumption.¹⁰⁶

By early 1942 existing sources were clearly unable to provide Germany with enough oil to resume offensive operations against the Soviet Union on the scale of the 1941 campaign, let alone to wage war on the western powers on a scale sufficient to bring about their defeat. Since the outbreak of war, only slight gains had been made in the domestic extraction of crude oil, which never accounted for over 20 per cent of the *Reich's* total supply. Synthetic production, on the other hand, had risen to 4,116,000 tons in 1941 (up from 2,220,000 in 1939) and would continue to rise steadily for another two years, until the synthetic fuel plants began to be targeted by Allied bombers.¹⁰⁷ However, these gains in synthetic production were offset slightly by the declining output of the Rumanian oilfields. For various reasons, including the gradually decreasing productivity of the wells, their yield had dropped from 8,701,000 tons in 1937 to 5,577,000 in 1941.¹⁰⁸ Much of this amount was needed by Rumania itself, whose own

economy was straining to cope with the demands of war. Also, as noted above, Rumanian deliveries to Germany had dropped off sharply in the last months of 1941, mainly as a result of depleted reserves and a quarrel with Germany over payment. At the beginning of December 1941, Marshal Antonescu had personally warned Hitler by telegram that, while he would do everything he could to increase deliveries, 'in the last five months we exported to Germany and Italy amounts greater than the monthly output of 125,000 tons fuel oil, which exhausted our available reserves'.¹⁰⁹ Despite repeated assurances by Rumanian leaders that their nation 'would do everything possible to increase her deliveries to Germany',¹¹⁰ it appeared unlikely in the first months of 1942 that supplies of Rumanian oil would ever return to the levels of mid 1941. Indeed, on 12 February Antonescu informed von Ribbentrop that 'as for crude oil, Rumania has contributed the maximum which it is in her power to contribute. She can give no more.' Alluding to the much discussed drive on the Caucasus, Antonescu added that 'the only way out of the situation would be to seize territories rich in oil.'¹¹¹

This was certainly a compelling argument to use with the Navy. As noted above, Raeder was complaining as early as October 1941 to Hitler about the Navy's oil situation and had warned him on 12 December that it was now 'very critical'. By early 1942, the situation had deteriorated considerably, so that the Navy was, in the words of one writer, living 'hand to mouth'.¹¹² For example, the naval base in Piraeus had a stock of almost 11,000,000 litres of heating oil at the beginning of August 1941, but it had all gone by the end of the year.¹¹³ The dash of the Brest group through the English Channel and on to Norway had consumed 20,000 tons of fuel oil alone, and by 1 April the Navy's oil reserves had dropped to 150,000 tons.¹¹⁴ Fortunately for Raeder, the shortage of fuel did not greatly hamper the operations of Dönitz's U-boats – which were still coming far nearer than any other Axis force to strangling the Allied war effort – because they operated on diesel oil and that was still in adequate supply.

The oil shortage virtually immobilized not only the German surface fleet, but also that of the Italians. In December 1941 the Italian Navy had received 29,600 tons of fuel oil, instead of the 40,000 promised, and only 13,500 in January 1942. 'There is only one dark spot – the lack of oil', Ciano jotted in his diary on 8 February 1942. Just now we have barely a hundred thousand tons, and only a negligible quantity gets through to us from abroad. This immobilizes the Navy, particularly the large ships, which otherwise would enjoy total supremacy in the Mediterranean'.¹¹⁵ Part of the problem, he had claimed a month earlier, was that the Germans were (in Mussolini's words) 'highway robbers', taking for themselves 'the oil which was meant for us.'¹¹⁶

The *Luftwaffe* was not quite as hard hit by the crisis as the other services, although in 1941 it had been forced to draw upon its reserves for more than 25 per cent of its consumption. As a result, the *Luftwaffe*'s reserves of aviation fuel at the end of 1941 amounted to only 254,000 tons, which was a huge drop from the reserves of 613,000 tons at the end of the previous year.¹¹⁷ During the winter of 1941/42, when it became apparent that the *Blitzkrieg* had failed and that a prolonged war of attrition was inevitable, worried *Luftwaffe* planners (including Göring himself) urgently insisted that far larger amounts of aviation fuel would be needed. Accordingly, attempts were made to expand the output of existing synthetic fuel facilities – still the principal source of aviation fuel – and begin the construction of additional plants.¹¹⁸ Despite these efforts, increases in synthetic fuel production could not be achieved overnight, and by the spring of 1942 the shortage of refined aviation fuel was significantly restricting the *Luftwaffe*'s training programme and preventing the renewal of an air offensive on anywhere near the scale of the Battle of Britain.

The *Luftwaffe*'s oil situation did not go unnoticed by Allied intelligence agencies. The British Air Ministry, by way of illustration, stated in a February 1942 intelligence report that, while there was little chance at present of the *Luftwaffe* 'being grounded for want of fuel and oil', there was every reason to believe that shortages of fuel would become 'more and more acute.'¹¹⁹ Furthermore, despite German efforts to reduce oil consumption in order 'to stave off disaster . . . without the Caucasus oil fields all this must be in vain so long as the Russian armies remain in being.' This was not the only mention of German's urgent need to seize the Caucasus oilfields. The report also stated that:

the Russian campaign, which so greatly exceeded in scale any previous mechanized battles, has run down even the considerable stocks which Germany had last June to a level which is uncomfortably low, and the 'oil export' can at last lay his hand on his heart and say the Germans are likely to run out of oil before very long – unless they get the Caucasus without delay.

Considering the potentially disastrous impact of these shortages on Germany's continued war effort, Hitler's plan to seize the Caucasus oilfields made perfect sense. These accounted for 'about 90% of oil produced in the Soviet Union'.¹²⁰ In the light of the fact that the Soviet Union had extracted a staggering 34,200,000 tons of crude oil in 1940¹²¹ (more than the combined totals of Iran, Iraq, Rumania, Mexico and Indonesia¹²²), it is clear that these oilfields had an immense output. Their total yield was no secret to the oil-hungry Hitler, who, in his ominiscient manner, told his

dinner guests one evening that: 'statistics show that the Russians until quite recently obtained 92 per cent of their oil from the Caucasus.'¹²³

Early in 1942, Hitler argued persuasively that the seizure of these extremely rich oilfields would relieve Germany's critical shortages and enable it, if necessary, to continue fighting in a drawn-out war of attrition. The seizure of these geographically distant oilfields, although still within reach of British bombers based in Iraq (which were not, in any event, a danger in 1942), would also greatly offset the constant danger of Allied air attacks against the Ploesti plants in Rumania and its own synthetic fuel plants within the *Reich* itself. More importantly, Hitler declared, the severance of the various north-south railways between the oil and industrial regions and Moscow, the capture of the oilfields themselves and the blocking of the vital Volga river system (which carried not only oil but armaments and lend-lease supplies from Archangel) would be a massive, and probably mortal blow to the Soviet economy and war effort.¹²⁴

The surviving documentation reveals that few *OKW* and *OKH* officers openly expressed doubts about the proposed campaign to seize the Caucasus oilfield, and that none actually challenged Hitler on the feasibility of the plan. It may be, of course, that after the dismissal of von Brauchitsch and von Rundstedt, none were brave enough to risk the *Führer's* wrath. It appears more likely, however, that Hitler's military advisers were in general agreement that, within the limited range of options available, his plan contained the most merit. Even Halder, who personally thought (but never made a strong case to the High Command¹²⁵) that the eastern armies should maintain an essentially defensive posture for the time being, was apparently won over to the general plan. In response to the Navy's 'Suez Memorandum' of 3 April, which advocated the urgent capture of the Suez Canal by Rommel's forces, Halder emphatically stated to the *OKH* Naval Liaison Officer, *Kapitän zur See* Konrad Weygold, that the conquest of the Caucasus was 'absolutely vital' for Germany's continued war effort.¹²⁶ If the oilfield were not captured, 'the Reich will not survive long'. The Caucasus, he explained 'has more or less the same importance as Silesia once had for Prussia.' Having doubtless carefully studied the detailed briefings of the War Economy and Armaments Office, he knew that Germany's oil situation was critical. On 16 February, by way of illustration, this office had grimly warned, in its conclusion to a 16-page report on Germany's fuel situation that:

One thing is now clear: without Russian oil we simply cannot utilize fully the regions of Russia we now occupy. But above all, without

Russian oil the German war machine must from now on become increasingly more impotent.¹²⁷

Indeed, as the year progressed it became increasingly evident to senior German planners that Hitler's emphasis on the capture of oil resources was well-founded. For example, on 6 June (three weeks before the start of the campaign), the *OKW* glumly reported that oil supplies throughout the rest of 1942 would be 'one of the weakest points in our defensive capabilities'. The significance of this comment is obvious; *defensive* actions require far less oil than offensive ones, so the situation must certainly have looked black. Because oil shortages were so critical, the report continued, 'the operational freedom of all three services will be restricted, and the armaments industry will also suffer. Reserves have been reduced almost to nothing, so we are now forced to rely on production.'¹²⁸

It appears that during this period there was little discussion between Hitler and his military advisers over the important question of how Caucasus oil was to be transported to the *Reich*. A quarter of a century earlier, this problem had also vexed Ludendorff and the German High Command, who never arrived at an adequate solution.¹²⁹ The overworked *Führer* may not even have realized the importance of this matter, considering it best simply to cross that bridge when he came to it. He had almost certainly not read the March 1941 report by *Generalleutnant* Hermann von Hanneken of the War Economy and War Armaments Office, which was appended to a letter sent by Keitel to the *OKH*. This report warned that, even if the Caucasus oilfields could be captured intact, very little oil (only 10,000 tons per month) could be carried overland to Germany.¹³⁰ Moreover, even if the Black Sea could be made safe for shipping, there would be no ships available for the transport of Caucasus oil up the Danube because its river tankers were already working to capacity transporting Rumanian oil.¹³¹ The only remaining route was across the Black Sea, through the Dardenelles, and on to Mediterranean ports. Accordingly, the report concluded, 'the opening of the sea routes and the security of the tankers in the Black Sea is the prerequisite for the use of Russian supply sources in sufficient quantity to support the further continuation of the war.' Clearly, to attain this prerequisite was virtually impossible by early 1942; the Germans would have had to wipe out the powerful Soviet Black Sea Fleet (which still had, according to Raeder, 'naval supremacy ... [allowing] great freedom of movement'¹³²) and eliminate British air and sea power from the eastern Mediterranean.

Despite not considering how best to solve this logistics nightmare – which never occurred, because the German Army captured only the already-destroyed Maikop oilfield – Hitler was well aware of the need to

make the Black Sea safe for German shipping. However, both he and Raeder appear to have worried more about supplying German armies via the Black Sea than of shipping Caucasus oil back to the *Reich* or Rumanian refineries.¹³³

When planning the forthcoming campaign, both Hitler and the German High Command placed considerable emphasis on the need to advance on the Caucasus oilfields so rapidly that the Soviets would not have time to destroy the oil wells and refineries permanently. If the latter were destroyed, the bulk of the oil would have to be refined elsewhere until new refineries could be constructed. Only Rumanian refineries, which still had a considerable surplus refinement capacity,¹³⁴ could handle large quantities of additional crude, but (for the reasons mentioned above) it would be extremely difficult to ship significant amounts of oil from the Caucasus to Rumania.

An 'Oil Detachment Caucaus' had been formed a year earlier, in the spring of 1941, when the capture of the oilfields was still a principal objective of the forthcoming attack on the Soviet Union. Its purpose was to repair damaged wells and refineries quickly so that exploitation of the oilfields could be commenced as soon as possible. In early 1942, when the capture of the oilfield became *the* objective of the forthcoming attack, this detachment was expanded considerably and renamed the 'Oil Brigade Caucasus'. The expansion was necessary because recent experiences in Ukraine and the Donets Basin indicated that the Caucaus oilfields would probably not be captured before at least some attempts were made to destroy existing wells and refineries. As a result, this unusual paramilitary force was brought to a strength of 10,794, issued with 1,142 vehicles and six aircraft and ordered to stand by, ready to move into the Caucaus oilfield immediately behind the combat troops.¹³⁵

IV

On 28 March, after a lengthy period of discussion, the *OKH* presented Hitler with a plan for the Caucasus offensive – to be code-named *Fall Blau*, or Case BLUE – which closely paralleled his wishes.¹³⁶ Hitler gave his endorsement to the basic concepts of the plan, and turned it over to the *OKW* operations staff to write an implementing directive. After he 'drastically amended' the draft Jodl submitted to him,¹³⁷ War Directive 41 was finally issued on 5 April.

'The winter battle in Russia', Hitler proudly stated in the preamble, 'is approaching its end. Through the unequalled courage and self-sacrificing devotion of our soldiers on the Eastern Front, a defensive success of the greatest scale has been achieved for German arms.'¹³⁸ While this was

certainly a fair and accurate appraisal, the following passage shows that he either misunderstood or deliberately misrepresented the fighting capability of the Soviet armed forces. 'The enemy', he wrote, 'has suffered the severest losses in men and *matériel*. In an effort to exploit apparent initial successes, he has expended during the winter the bulk of his reserves earmarked for later operations.'

Spelling out the aim of the new offensive, he declared that 'as soon as the weather and the state of the terrain provide the necessary prerequisites', it was important once again to seize the strategic initiative and, through German military superiority, 'force our will upon the enemy'. The objective this time was not only to wipe out the remaining Soviet military potential, but also to 'deprive them of their most important military-economic sources of strength.'

The general plan involved Army Group Centre holding fast, while an effort would be made to 'bring about the fall of Leningrad and link up with the Finns north of the city', and, in the region of Army Group South, a major campaign would be launched into the Caucasus. Nothing was said about Moscow. Clearly it could wait. Because of the damage inflicted upon the eastern army in the winter months, these objectives (Leningrad and the Caucasus) would 'have to be achieved only one at a time.' Initially, therefore,

all available forces are to be assembled for the main operation in the southern sector, with the objective of destroying the enemy forward of the Don, in order to secure the oil regions of the Caucasus and the passes through the Caucasus [mountain range] itself.

Before the major offensive into the Caucasus could commence, the directive stated, it would be necessary 'to clear the Kerch Peninsula in the Crimea and to bring about the fall of Sevastopol.' In preparation for this campaign, the *Luftwaffe* and later the *Kriegsmarine* would have the task of 'energetically hindering enemy supply traffic in the Black Sea and the Kerch Straits.' The insistence on these time-consuming preliminary operations in the Crimea reveals that Hitler still believed that the Crimea would have to be 'neutralized' entirely in order to protect Rumanian oilfields permanently from Soviet bombers. This view, it should be noted, was not only shared by *General-oberst* von Manstein,¹³⁹ whose battered Eleventh Army would have to do the fighting in the Crimea, but also by *General-oberst* Alexander Löhr, whose air fleet (*Luftflotte IV*) would have to support von Manstein's ground assault.¹⁴⁰ Perhaps more importantly, it was also shared by Marshal Antonescu, whose oilfields and refineries had been attacked as many as 95 times since 22 June 1941 by Soviet twin-engined bombers based around Odessa.¹⁴¹ These attacks were generally

weak and ineffectual, thanks to substantial German air defences around the oilfields and refineries (when BARBAROSSA began there were no less fewer than 24 heavy and numerous light *Flak* batteries around Ploesti alone¹⁴²). The presence and quantity of these forces, which included strong fighter units, reflects Hitler's deep concern over the safety of his main source of oil.

Although one author recently stated that oil production was 'unaffected' by these air attacks,¹⁴³ on several occasions they caused significant damage and heightened fears for the fields' safety. On 13 July 1941, for example, a raid left 17 oil tanks ablaze at Ploesti's *Orion* refinery. Although the fires were extinguished within 24 hours and around 12,000 tons of oil were saved, this attack caused considerable damage and losses and claimed the lives of seven firemen. In total, 9,000 tons of oil and 17 *Kesselwagen* were destroyed in various raids against the *Orion* refinery alone.¹⁴⁴ Ploesti's *Vega* refinery was another frequent target and on one occasion, the night of 18 July 1941, an attack resulted in the loss of around 2,000 tons of much-needed motor fuel.¹⁴⁵ These attacks would have greatly reinforced Hitler's belief that the Rumanian oilfields were highly vulnerable to air attack and that the Crimea – the only feasible base for Soviet long-range bomber fleets after the loss of Ukraine – would have to be 'neutralized' entirely in order to protect those oilfields from possible destruction.

After neutralizing the Crimea, Hitler's War Directive 41 stated, the main campaign could begin. Curiously, in the light of the fact that the campaign has come to be associated with the name of that city, the capture of Stalingrad was actually not a major objective. It was certainly considered by Hitler to be far less important than the oilfields. The directive stated only that an attempt should be made 'to reach' Stalingrad, 'or at least to subject this city to the bombardment of our heavy weapons to such an extent that it is eliminated as an armament and transportation centre in the future.' As the historian Gerhard Weinberg points out, it is ironic that 'the place whose name will always be associated with one of the great battles of World War II was largely ignored by the Germans beforehand and renamed Volgograd by the Soviet Union afterwards.'¹⁴⁶

Hitler was optimistic about the coming offensive and, although he could give away none of his plans, was determined to inspire the German people and his Axis partners into supporting another major drive to the east. On 26 April 1942, three weeks after issuing the directive for the campaign, he confidently announced before the *Reichstag* that 'a world struggle was decided during the winter', and, contrasting at length his own persistence and Napoleon's disastrous retreat from Moscow in 1812, boasted that 'we have mastered the destiny that broke another man 130 years ago.'¹⁴⁷ The *Wehrmacht*, he added, had passed its terrible trial in

Russia and was ready to move forward again. This year Stalin's evil régime would be destroyed once and for all.

This widely-transmitted speech to the *Reichstag* was well received by most sections of German society. It also had a positive effect on the Hungarians and Rumanians, who were, for reasons of national prestige, still enthusiastic about participating in the struggle to destroy Bolshevism. The war-weary Italians, whose military successes had been few and relatively insignificant, were generally unimpressed. It had 'a depressing effect in Italy', noted Ciano, who personally felt its tone was 'not very optimistic'. Mussolini, on the other hand, was inspired by the speech, privately calling it 'excellent and strong'.¹⁴⁸

Three days after Hitler gave this speech, he met both Ciano and Mussolini at Klessheim Castle in Salzburg. Ciano was struck by how old Hitler appeared, and noted in his diary that 'He is strong, determined, and talkative; but he is tired. The winter months in Russia have weighed heavily upon him. I see for the first time that he has many grey hairs.' While the *Führer* talked privately to Mussolini ('Hitler talks, talks, talks, talks – Mussolini suffers'), it was left to Ribbentrop to explain to Ciano the nature of the campaign outlined in Hitler's directive of 5 April. Ribbentrop, pointing out the great economic gains to be made, stressed the campaign's 'politico-military objective' and insisted that 'When Russia's sources of oil are exhausted she will be brought to her knees.'¹⁴⁹ During a top-level military conference held at the Berghof the following day, Hitler made the same point to Mussolini.¹⁵⁰ German forces, he said, already occupy the Soviets' main agricultural areas. As a result 'the Russians in the central regions must have terrible nourishment difficulties, a problem exacerbated by the confiscation of tractors for military purposes.' 'The strangulation of the civilian sector of Soviet society', he continued,

must directly influence the military sector. To start with, based on existing supplies the Russian must have adequate nourishment to survive another five months. But his harvest this year cannot be brought in and distributed before October.

This, he told Mussolini, was the decisive factor: 'If we now succeed in cutting him off from his oil, his traffic must grind to a standstill.'

Conclusion

The preliminary campaign (to clear the Crimea of Soviet forces) commenced on 8 May and was brought to a successful conclusion on 3 July.

Hitler breathed a sigh of relief; the Crimea was entirely in German hands and the Rumanian oilfields, his major source of oil, were safe from air attack for at least the near future.

Meanwhile, on 28 June the main campaign to seize the Caucasus oilfields had been launched and initially, to Hitler's great delight, made startling progress. The Volga river north of Stalingrad was reached by soldiers of the Northern Army Group on 23 August, allowing them to sever the Soviet's main north-south supply and communication route. Stalingrad, not as yet a main objective, seemed certain to fall within a month. On 9 August, German troops of the Southern Army Group had even overrun Maikop, the closest of the Caucasus oilfields. Although it had been badly damaged by retreating Soviets, some wells were reparable.¹⁵¹

By late October, Hitler seemed very close to victory. However, his Southern Army Group's attempts to push past Pyatigorsk and secure the passes through the main Caucasus range to the far richer oilfields in the south were repeatedly thwarted. He had meanwhile become obsessed with the capture of Stalingrad, and the success of a massive Soviet counter-attack there in November placed the encircled German Sixth Army and elements of the Fourth Panzer Army in grave danger of destruction. In December the Soviet Transcaucasus Front also went over to the offensive and throughout January and February the German troops still in the Caucasus were forced to conduct a perilous and difficult withdrawal through Rostov in order to avoid encirclement. Even Maikop, the only oilfield captured by the Germans, had to be abandoned. Except for the Seventeenth Army's defensive line on the Taman Peninsula, which was successfully stormed by the Soviets in September 1943, there were now no Germans in the Caucasus. The Caucasus oilfield had slipped from Hitler's grip and would never again be in direct danger. Things were much worse for the Sixth Army at Stalingrad. Attempts to supply it from the air failed and, at the end of January 1943, the commander of this once mighty army ordered his frost-bitten and starving men to lay down their arms. Almost 140,000 Germans had perished at Stalingrad, and of approximately 91,000 taken prisoner only 6,000 or so survived captivity.

This analysis reveals that the disastrous campaign was, from its very conception, the result of perceived economic necessity. Its planning was, to a far greater degree than that of any other German military undertaking of the Second World War, significantly influenced by economic considerations. The *Führer's* directive of 5 April 1942 committed the German armed forces for the first time to a massive offensive with economic objectives taking precedence over strictly military ones. Hitler was well aware that his strategy was a departure from traditional military theory, but reasoned that, unlike Clausewitz, who wrote his most influential

works on military theory in the 1820s, he commanded mechanized armies in a war between major industrialized nations. He knew that the economic resources (including manpower, raw materials and fuel) of the growing list of nations he now faced greatly exceeded Germany's. The *Reich's* economic potential for waging prolonged warfare had never been high, but now, after two years of war, it had deteriorated significantly. As his economic advisers constantly pointed out, the campaign against the Soviet Union had cost Germany dearly in terms of manpower and raw materials and had consumed massive amounts of oil. Unless he succeeded in both defending his main existing source of oil from Soviet air attack and in capturing new and substantial sources he was incapable of waging a protracted war of economic attrition. On the other hand, he believed, if his campaign succeeded it would not only relieve the terrible shortage of oil products currently experienced but also deliver a massive, possibly mortal, blow to the Soviet war economy.

It needs to be said, of course, that the dire predictions of Hitler and his economic advisers in 1941 and 1942 about the certain collapse of the German war machine if no new sources of oil were obtained proved to be exaggerated. The German war effort did not grind to a halt when the campaign to capture the Caucasus oilfields failed. Although Germany's oil situation remained acute, and became desperate after the Allied air offensive against its synthetic fuel plants and the Rumanian oilfields began, the *Reich* continued fighting until May 1945.

In fact, despite the total failure of the 1942 campaign, events in 1943 actually led to a slight improvement in the oil situation. First, when Italy defected from the Axis in September it ceased to be a drain on Germany's near-exhausted reserves. Secondly, when German forces in Italy responded to this defection and rapidly disarmed their former allies they captured surprisingly large stocks of oil. Thirdly, Germany's synthetic fuel industry, not yet targeted by Allied bombers, reached a production peak.¹⁵² Accordingly, the oil shortages which had bedevilled the *Wehrmacht's* efforts throughout the previous two years appeared far less critical. The *Luftwaffe* was even able to build up its meagre reserves slightly for the first time since the beginning of the Russian campaign.¹⁵³

In May 1944, however, the USAAF's strategic bombing force began concentrating its efforts against both the German synthetic fuel plants and the Rumanian oilfields and refineries. Raids on the latter targets were greatly facilitated by the use of bases in southern Italy. Despite high aircraft and crew losses, these efforts paid off handsomely for the Allies, who learned from 'Ultra' decrypts that many plants suffered production decreases or were put out of action altogether. By late summer Germany's oil supplies were seriously depleted. In May, by way of illustration,

316,000 tons of synthetic fuel were produced in Germany. The following month production fell to 107,000 tons, and in September it plummeted to a mere 17,000. As a result, the *Luftwaffe* received only 30,000 tons of petrol that month, instead of its normal 180,000 tons.¹⁵⁴ Its training programmes suffered terribly, with many pilot-training schools shutting down for lack of fuel. The mobility of the mechanized forces was also significantly curtailed. For the Ardennes campaign in December, Germany's last major offensive action of the war, the armoured formations had very meagre fuel reserves (and these were created only by robbing fuel from forces not involved). Hitler was gambling on their ability to capture American stocks. With the failure of this endeavour and powerful Allied armies pressing in from west, east and south it was clear that Germany would not survive much longer.

Thus Germany's ability to wage war did not dissolve with the failure of the Caucasus campaign, as the *Führer* and his economists had previously believed. Having said that, it should also be noted that neither Hitler nor his military planners could forecast with certainty the future course of the war nor, therefore, accurately calculate the future oil consumption of Germany's armed forces. Frequent evaluations in 1941 and 1942 by the War Economy and Armaments Office, based on careful and detailed analyses of past production, import and consumption rates, clearly revealed that once oil reserve stocks were exhausted it would no longer be possible to offset the significant shortage of oil. Germany's war machine would rapidly grind to a halt. These grim conclusions were repeatedly presented to Hitler and the High Command in the form of detailed reports. Their claims, we saw above, were seemingly corroborated by commanders in the field and even senior service chiefs such as Raeder, who complained constantly that the mobility or operational capability of their forces had deteriorated because of decreases in their oil supplies. History has exposed the inaccuracy of the warnings the Nazi leader received from his economists, but at that time they seemed both credible and compelling. Hitler, aware by December 1941 that he now faced a prolonged war against the world's two economic giants the Soviet Union and the United States, felt that he had no real option but to embark on a campaign which would, if successful, greatly enhance his ability to continue waging that war.

NOTES

1. United States Air Force Historical Research Agency (hereafter USAFHRA) 506. 619A: SHAEF, Office of Assistant Chief of Staff, G2. Subject: Interrogation of Albert Speer, Former Reich Minister of Armaments and War Production. 5th Session, 10.30 to 12.30 hrs, 30 May 1945.

2. F. Halder (Generaloberst), *Kriegstagebuch: Tägliche Aufzeichnungen des Chefs des Generalstabes des Heeres, 1939–1942 Band II: Von der geplanten Landung in England bis zum Beginn des Ostfeldzuges (1.7.1940–21.6.1941)* ed. by H.-A. Jacobson (Stuttgart: Kohlhammer, 1965), p.50; Cf. also W. Warlimont, *Im Hauptquartier der deutschen Wehrmacht, 1939 bis 1945 Band I: September 1939–November 1942* (Ausburg: Weltbild, 1990. First published by Bernard und Graefe, 1962), pp.126–9.
3. *Der Prozeß gegen die Hauptkriegsverbrecher vor dem Internationalen Militärgerichtshof, Nürnberg, 14. Nov. 1945–1. Okt. 1946* (Nürnberg: Internationales Militärtribunal in Nürnberg, 1947–1949), Vol. VII, p.290.
4. USAFHRA 142.0372: 'Strategic Value of the Caucasus', (US) *Air Forces General Information Bulletin, No.3* (12 Aug. 1942), p.14.
5. USAFHRA 512.607: 'Caucasus Oil', (British) *Air Ministry Weekly Intelligence Summary* [these once 'Secret' reports are hereafter cited as *AMWIS*] No. 156, *Up to 1200–26 August 1942*, p.3 (on microfilm 32770); See also USAFHRA 512.607: 'The Grozny Oil District', *AMWIS No.159, Up to 1200–18 September 1942*, p.24 (on the same microfilm). For similar German estimates, see USAFHRA K113.106-153 Vol.11: *Der Oberbefehlshaber der Luftwaffe, Führungsstab Ic/IV Nr. 3500/41 Geheim! Orientierungsheft: Union der Sozialistischen Sowjetrepubliken (U.d.S.S.R.), Stand 1.2.1941*, pp.88–93; USAFHRA K113.106-153 Vol.11: *Der Chef des Wehrwirtschaft- und Rüstungsamts beim OKW, an den Chef des Generalstabes der Luftwaffe, Herrn Generaloberst Jeschonnek, Berlin, den 31.3.1942*, pp.10, 11.
6. Cf. National Archives, Washington, DC (hereafter NARS) T321/111/763-5: *Wasserstraßen S.U. (Europ. Teil) – Wolgasystem. Stand: Juni 1942 (File of Lw Fü Stb Ic/See-Genst. 5. Abt.III)*.
7. USAFHRA 142.0372: 'Strategic Value . . .', p.14. For the population statistics of Baku (809,347 citizens in 1939) and the other major Transcaucasian cities, see USAFHRA K113.106.153: *Der Oberbefehlshaber der Luftwaffe, Führungsstab Ic/IV Nr. 3500/41 Geheim! Orientierungsheft: Union der Sozialistischen Sowjetrepubliken (U.d.S.S.R.) Stand 1.2.1941*, pp.9, 10.
8. USAFHRA 512.607: 'Caucasus Oil', p.3.
9. USAFHRA 142.0372: 'Strategic Value . . .', p.15.
10. E. Ludendorff, *My War Memoirs: 1914–1918* (London: Hutchinson, n.d.), Vol.I, p.347.
11. *Ibid.*, Vol.I, p.659.
12. A useful introduction to this subject is L. Fischer, *Oil Imperialism: The International Struggle for Petroleum* (London: Allen & Unwin, 1926; reprinted 1976), especially Ch.1, 'The War for Baku'.
13. *The United States Strategic Bombing Survey: Over-all Report (European War) September 30, 1945*, p.39; B.H. Klein, *Germany's Economic Preparations for War* (Cambridge, MA: Harvard UP, 1959), p.32.
14. *Over-all Report*, p.39.
15. *The United States Strategic Bombing Survey: The Effects of Strategic Bombing on the German War Economy. Overall Economic Effects Division, October 31, 1945*, p.73.
16. W. Treue, 'Hitlers Denkschrift zum Vierjahresplan, 1936', *Vierteljahrshefte für Zeitgeschichte*, Vol.3 (April 1955), pp.184–210.
17. For Hitler's views on the need for *Lebensraum* in the east, cf. *Mein Kampf* Zwei Bände in einem Band. Ungekürzte Ausgabe (München: Zentralverlag der NSDAP., Frz. Eher Nachf., 1943 ed.), pp.1, 143–50, 153, 154.
18. M. Domarus, *Hitler: Reden und Proklamationen 1932–1945* (Leonberg: Pamminger, 1988; first published by Süddeutscher Verlag, Munich, 1965), Vol.II, p.637.
19. *Over-all Report*, p.39; USAFHRA 512.607: 'The Fuel Position of the German Air Force', *AMWIS No.129, Up to 1200–18th February 1942*, p.20.
20. R.C. Cooke and R.C. Nesbit, *Target: Hitler's Oil: Allied Attacks on German Oil Supplies, 1939–1945* (London: Kimber, 1985), p.16.
21. *Effects of Strategic Bombing*, pp.73, 74.
22. *Ibid.*, *Over-all Report*, p.39.

23. Cf., for example, the projected totals for 1939–44 in *Bundesarchiv-Militärarchiv*, Freiburg, Germany [hereafter cited as BA/MA] RW 19/202: Az 66 b 2134 WStb/W Ro III, *Vortragsnotiz für Generalfeldmarschall Göring über Zielsetzung und Forderungen für die Weiterführung des Mineralöl-Bauprogramms*, 31 Januar 1939, in *Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend)*.
24. *Effects of Strategic Bombing*, p.74.
25. Cooke and Nesbit, p.16; *Effects of Strategic Bombing*, p.74.
26. *Ibid.*, p.73.
27. *Ibid.*, p.74.
28. *Ibid.*, p.75.
29. BA/MA RW 19/202: *Wi Rü Amt Stab Z/SR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung im Kriege. Abgeschlossen um die Jahreswende 1941/42'*, in *Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend)*, Beginn 1.5.1940. See also W. Deist, M. Messerschmidt, H.-E. Volkman, W. Wette, *Germany and the Second World War Vol.I: The Build-up of German Aggression* (Oxford: Clarendon, 1990), p.361.
30. BA/MA RW 19/202: *Wi Rü Amt Stab Z/SR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung im Kriege. Abgeschlossen um die Jahreswende 1941/42'*, in *Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend)*, Beginn 1.5.1940.
31. N. Rich, *Hitler's War Aims: Ideology, the Nazi State, and the Course of Expansion* (New York/London: Norton, 1992; first published 1973), p.188.
32. BA/MA RW 19/202: *Wi Rü Amt Stab Z/SR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung im Kriege. Abgeschlossen um die Jahreswende 1941/42'*, in *Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend)*, Beginn 1.5.1940. See also *Effects of Strategic Bombing*, p.74.
33. Rich, pp.189, 190.
34. Document 134-C: 'OKW/WFSt. Nr. 8/41 gKdos. Chfs. Ausführungen des Führers am 20.1.1941', IMT, Vol.XXXIV, p.469. See also Hitler's earlier comments to Ciano on the danger to the Ploesti refineries: 'Conversation with the Fuehrer in the Presence of the Reich Foreign Minister, von Ribbentrop, Salzburg, 18th November 1940', in G. Ciano, *Ciano's Diplomatic Papers* Ed. M. Muggeridge; trans. by S. Hood (London: Odhams, 1948), p.408.
35. Cooke and Nesbit, p.64.
36. R. Muller, *The German Air War in Russia* (Baltimore, MD: Nautical & Aviation Publishing, 1992), p.69.
37. Cf. Von Hardesty, *Red Phoenix: the Rise of Soviet Air Power, 1941–1945* Smithsonian History of Aviation (Washington, DC and London: Smithsonian Institution Press, 1982), p.217; R.A. Kilmarx, *A History of Soviet Air Power* (NY: Praeger, 1962), p.177.
38. Warlimont, *Im Hauptquartier*, Vol.I, p.146.
39. *Over-all Report*, p.39.
40. C. Tugendhat and A. Hamilton, *Oil: the Biggest Business* (London: Eyre Methuen, 1968), p.114; BA/MA RW 19/202: *Wi Rü Amt Stab Z/SR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung im Kriege. Abgeschlossen um die Jahreswende 1941/42'*, in *Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend)*, Beginn 1.5.1940.
41. *Over-all Report*, p.40; *Effects of Strategic Bombing*, p.76; Tugendhat and Hamilton, *Oil*, p.114.
42. Cooke and Nesbit, p.17.
43. F.W. Deakin, *The Brutal Friendship: Mussolini, Hitler and the Fall of Italian Fascism* (London: Weidenfeld and Nicolson, 1962), pp.164, 180; cf. Halder, *Kriegstagebuch*, Vol.II, p.421 (entry for 20 May 1941).
44. B. Wegner, 'The Road to Defeat: the German Campaigns in Russia 1941–43', *Journal of Strategic Studies*, Vol.13, No.1 (March 1990), p.110.
45. Halder, *Kriegstagebuch*, Vol.II, p.422.
46. W. Hubatsch (ed.), *Hitlers Weisungen für die Kriegführung 1939–1945: Dokumente des Oberkommandos der Wehrmacht* (Frankfurt am Main: Bernard und Graefe, 1962),

- pp.150–3. The code-name *Taifun* was given to the offensive two weeks later, in an order of 19 Sept. 1941.
47. F. Halder, *Kriegstagebuch: Tägliche Aufzeichnungen des Chefs des Generalstabes des Heeres, 1939–1942 Band III: Der Rußlandfeldzug bis zum Marsch auf Stalingrad* (22.6.1941–24.9.1942), p.222.
 48. Ibid.
 49. Cf. BA/MA RW 19/199 for the *Wi Rü Amt*'s monthly situation reports, which detail Rumania's supply problem. See especially *Wi Rü Amt Stab Z/SR Nr. 86/42 gKdos, Berlin, den 9. Januar 1942: Kriegswirtschaftlicher Lagebericht Nr. 28, Dezember 1941*; and *Wi Rü Amt Stab Z/SR, Nr. 686/42 gKdos, Berlin, den 13. März 1942: Kriegswirtschaftlicher Lagebericht Nr. 30, Februar 1942*. Also, for a detailed analysis of the German-Rumanian oil situation in 1941, see BA/MA RW 19/178: *Deutsche Wehrwirtschaftmission in Rumänien, Ch.d. St. Tagb. Nr. 226/41 gKdos, Bukarest, den 8. Dezember 1941: An das OKW/Wi Rü Amt, Berlin, Bericht Nr. 15, über die Tätigkeit der Deutschen Wehrwirtschaftmission in Rumänien vom 20. September 1941 bis 20. November 1941*.
 50. BA/MA RW 19/202: *Wi Rü Amt Stab Z/SR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung in Kriege. Abgeschlossen um die Jahreswende 1941/42', in Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend), Beginn 1.5.1940*. Cf. also the detailed monthly statistical reports sent by the *Reichsstelle für Mineralöl to Kapitän zur See Gabriel, OKW/Wi Rü Amt* (in BA/MA RW 19/2695). See the source cited in note 56 for *Großadmiral Raeder's* comments about the squabble over payment between Rumania and Germany.
 51. Quoted in K. Reinhardt, *Die Wende vorf Moskau: Das Scheitern der Strategie Hitlers im Winter 1941/2 Beiträge zur Militär- und Kriegsgeschichte*, Band 13 (Stuttgart: Deutsche Verlags-Anstalt, 1972), p.117.
 52. Ibid., pp.117–18.
 53. Halder, *Kriegstagebuch*, Vol.III, p.38.
 54. Quoted in Reinhardt, p.118; and H. Boog, et al., *Der Angriff auf die Sowietunion* (Frankfurt am Main: Fischer Taschenbuch, 1991. First published as Vol.4 of *Das Deutsche Reich und der Zweite Weltkrieg* by Deutsche Verlags-Anstalt, Stuttgart, 1983), p.1131.
 55. Reinhardt, p.118.
 56. BA/MA RW 19/177; *Adjutant Amtchef Wi Rü Amt, Akten-Notiz über Besprechung bei Gen. Qu. am 30.8.1941*.
 57. Ibid.
 58. Halder, *Kriegstagebuch*, Vol.II, p.421.
 59. Reinhardt, p.118, n.95.
 60. USAFHRA 512.607: 'The Fuel Position of the German Air Force', *AMWIS No. 129, Up to 1200–18th February 1942*, p.19.
 61. BA/MA RW 19/177: *Wi Rü Amt Az. 11 k 2209 Ro Vs., Nr. 3241/41 gKdos, Berlin, den 7. Oktober 1941: Stand der Mineralölversorgung im 4. Vierteljahr 1941 ausgehend von der Lage am 1.10.1941*.
 62. Ibid.
 63. *Report of the C.-in-C., Navy, to the Fuehrer at Wolfsschanze in the Afternoon of November 13, 1941*, published in H.G. Thursfield (ed.), 'Fuehrer Conferences on Naval Affairs, 1942', *Brassey's Naval Annual, 1948* (London: Clowes and New York, Macmillan, 1948), pp.235–43.
 64. Ibid.
 65. *Report of the C.-in-C., Navy, to the Fuehrer in Berlin on December 12, 1941*, in *ibid.*, pp.244–6.
 66. BA/MA RW 19/177: *Wi Rü Amt/Chef des Stabes, gKdos, Berlin, den 24. Oktober 1941, Ergebnis der Besprechung bei Gen. Qu. am 22.10.1941*.
 67. Warlimont, *Im Hauptquartier*, Vol.I, p.200.
 68. Cf. Halder's comments and criticisms on 4, 6, 7 and (in particular) 22 Aug. 1941 (*Kriegstagebuch*, Vol.III, pp.153, 158, 159, 193); and Warlimont's comments, *Im*

Hauptquartier, Vol.I, pp.198–205.

69. *Wfst L Nr. 441412/41*, text in Halder, *Kriegstagebuch*, Vol.III, p.192.
70. *OKW Chef Wfst., Studien I (C5), allg. 15, Bd. 3*, in *Kriegstagebuch OKW*, Vol.I, pp.1063–8.
71. H. Guderian, *Erinnerungen eines Soldaten* (Heidelberg: Vowinkel, 1951), p.182.
72. N. Khrushchev, *Khrushchev Remembers* with an Introduction, Commentary and Notes by Edward Crankshaw (London: Deutsch, 1971), p.169. An excellent introduction to this topic is S.R. Lieberman's, 'The Evacuation of Industry in the Soviet Union during World War II', *Soviet Studies*, Vol.XXXV (1983), pp.90–102. Cf. also M. Harrison, *Soviet Planning in Peace and War, 1938–1945* Soviet and East European Studies (London: CUP, 1985), pp.63–81.
73. Quoted in Reinhardt, *Die Wende vor Moskau*, p.177.
74. Document in R. Lehmann, *The Leibstandarte: 1 SS Panzer Division Leibstandarte Adolf Hitler* Vol.II (Winnipeg: Fedorowicz, 1988), p.169.
75. Reinhardt, p.177.
76. *Kriegstagebuch*, First Panzer Army, Annex N63/53, quoted in D. Irving, *Hitler's War* (London: Focal Point, 1991); first published in 1976), p.437.
77. Quoted in Lehmann, *Leibstandarte* Vol.II, p.180.
78. Reinhardt, p.178.
79. Halder, *Kriegstagebuch*, Vol.III, p.319.
80. *Ibid.*, p.321.
81. *Ibid.*, p.322.
82. *Ibid.*, p.283.
83. *Ibid.*, p.295.
84. *Ibid.*, pp.328, 330.
85. *Weisung Nr. 39*, in Hubatsch (ed.), *Hitler's Weisungen*, pp.171–4.
86. Halder, *Kriegstagebuch*, Vol.III, p.330. On 16 Dec., Halder also noted that Hitler emphatically ordered: 'There can be no talk of withdrawal. The enemy has made substantial inroads in only a few places. [The idea of] preparing rear positions is just crazy. [Rückwärtige Linien aufzubauen, ist Phantasie].' *Ibid.*, p.350.
87. A.W. Turney, *Disaster at Moscow: Von Bock's Campaigns 1941–1942* (Univ. of New Mexico, 1970, p.158). To see how various front-line commanders responded throughout the winter months to Hitler's often-reiterated *Haltbefehl*, cf. Reinhardt, *Die Wende vor Moskau*, pp.197ff.
88. USAFHRA K113.309-3 Vol.1: *Der Führer und Oberste Befehlshaber der Wehrmacht Nr. 442182/41 gKdos. Chefs./Wfst./Abt. L (1 op.), F.HQu., den 16.12.1941*.
89. For Guderian's dismissal, see his own account: *Erinnerungen eines Soldaten*, pp.235–46.
90. W. Keitel, *Keitel: Verbrecher oder Offizier. Erinnerungen, Briefe, Dokumente des Chefs OKW* edited by W. Görlitz (Göttingen/Berlin/Frankfurt: Musterschmidt, 1961), pp.290–3. Similarly, cf. Jodl's IMT testimony, in which he admits he 'really marvelled' at Hitler's success in stabilizing the eastern front and saving the German Army from an 'imminent catastrophe' similar to that experienced in 1812 by France (IMT, Vol.XV, p.302). See Ribbentrop's praise, in G. Ciano, *Ciano's Diary 1939–1943*; ed. by M. Muggeridge (London/Toronto: Heinemann, 1947) (entry for 29 April 1942). Many prominent historians also agree that Hitler's 'no retreat' decision was the right one. Cf. A. Clark, *Barbarossa: the Russian-German Conflict, 1941–45* (NY: Quill, 1985, first published in 1965), p.182; Irving, *Hitler's War*, pp.448–9; Reinhardt, *Die Wende vor Moskau*, p.221; A. Bullock, *Hitler: a Study in Tyranny* (London: Pelican, 1965, first published in 1952), p.664.
91. 'Weisung für die Aufgaben des Ostheeres im Winter 1941–2', in P.E. Schramm (ed.), *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtführungsstab) 1940–1945* (Frankfurt am Main: Bernard & Graefe, 1961) hereafter *Kriegstagebuch OKW*, Vol.I, pp.1076–82.
92. H.-A. Jacobsen, *1939–1945: Der Zweite Weltkrieg in Chronik und Dokumenten* (Darmstadt: Wehr und Wissen, 1961), p.288.
93. Ziemke and Bauer, *Moscow to Stalingrad*, p.286.

94. For example, see Goebbels's diary entry for 20 March 1942, in R.G. Reuth (ed.), *Joseph Goebbels – Tagebücher, Band 4: 1940–1942* (München/Zürich: Serie Piper, 1992), pp.1767ff.
95. Domarus, *Hitler: Reden und Proklamationen*, Vol. II, p.1826.
96. *Joseph Goebbels – Tagebücher, Band 4*, p.1750 (entry for 31 Jan. 1942).
97. For Hitler's despondency and declining physical health during this period, see Reinhardt, *Die Wende vor Moskau*, pp.262–4.
98. Görlitz (ed.), *Keitel: Verbrecher oder Offizier*, p.298.
99. Cf. Warlimont, *Im Hauptquartier*, Vol. I, p.241.
100. Guderian, *Erinnerungen*, p.343; On Hitler's departure from 'Clauzewitzian' doctrine, see also R. Gehlen, *The Service: the Memoirs of General Reinhard Gehlen* trans. David Irving with an Introduction by George Bailey (NY: Popular Library, 1972), pp.74–7.
101. Reinhardt, *Die Wende vor Moskau*, pp.256–7.
102. Jacobsen, 1939–1945: *Der Zweite Weltkrieg*, p.690.
103. 'Der Führer und Oberste Befehlshaber der Wehrmacht Nr.: 1/42 gKdos OKW/WFSt/ Org.-Wi. Rü Chfs', in *Kriegstagebuch OKW*, Vol. II, pp.1265–7.
104. Jacobsen, 1939–1945: *Der Zweite Weltkrieg*, p.690.
105. Figures from Table 37 in *Effects of Strategic Bombing*, p.75.
106. Figures from Table 39, *ibid.*, p.77.
107. Figures from Table 37, *ibid.*, p.75.
108. Figures from *Tabelle Nr. 3*, in A. Hillgruber, *Hitler, König Carol und Marschall Antonescu: die deutsch-rumänischen Beziehungen 1938–1944* Veröffentlichungen des Instituts für europäische Geschichte, Mainz, Band 5 (Wiesbaden: Steiner, 1965), p.249. See also Antonescu's telegram cited below in the following footnote. These figures differ only slightly from those compiled in the authoritative *The Science of Petroleum: Vol. V, Part I: Crude Oils*, ed. B.T. Brooks and A.E. Dunstan (London/ New York/Toronto: OUP, 1950), pp.44, 45.
109. 'Telegram, Marshal Antonescu to Adolf Hitler, December 5, 1941', published as Document No.549 in *Documents on German Foreign Policy, 1918–1945 Series D Vol. XIII: The War Years June 23, 1941–December 11, 1941* (London: HMSO, 1964), pp.963–4.
110. 'Record of the Conversation between the Reich Foreign Minister [Ribbentrop] and Rumanian Deputy Minister President Antonescu in Berlin on November 28, 1941', published as Doc. No.513, *ibid.*, p.873; see also Docs. 505, 519.
111. 'Record of Ion Antonescu's Conference with Ribbentrop, 12 February 1942' (Document USSR-233), IMT, Vol. VII, p.326.
112. W. Meier-Dornberg, *Die Ölversorgung der Kriegsmarine 1935 bis 1945* (Freiburg: 1973), pp.68–71.
113. BA/MA RM 35 III/30: *Bestande Lager Piräus vom 10.7.41–10.5.42*, in *Anlage zum Kriegstagebuch Marine-Gruppenkommando Süd*. Cf. also the rapidly plummeting amounts of oil which reached German naval bases in the Aegean Sea and Black Sea in the last months of 1941 and the first months of 1942 (same BA/MA file).
114. Editor's commentary in 'Fuehrer Conferences on Naval Affairs, 1942', p.274.
115. *Ciano's Diary 1939–1943*, p.431. A useful introduction to the Italian Navy's 'paralysing' oil shortages can be found in J.J. Sadkovich, *The Italian Navy in World War II*, Contributions in Military Studies, No.149 (Westport, CT/London: Greenwood, 1994), esp. pp.39, 78, 79, 240, 286, 287.
116. *Ciano's Diary 1939–1943*, p.420 (entry for 6 Jan. 1942).
117. BA/MA RW 19/177: *Wi Rü Amt Az. 11 k 2209 Ro Vs., Nr. 3241/41 gKdos, Berlin, den 7. Oktober 1941: Stand der Mineralölversorgung im 4. Vierteljahr 1941 ausgehend von der Lage am 1.10.1941*; and figures from Table 39 in *Effects of Strategic Bombing*, p.77.
118. *Over-all Report*, p.40.
119. USAFHRA 512.607: 'The Fuel Position of the German Air Force', *AMWIS No. 129, Up to 1200 – 18th February 1942* (on microfilm 32769).
120. USAFHRA 142.0372: 'Strategic Value ...', p.14; B.T. Brooks, *Peace, Plenty and Petroleum* (Lancaster, PA: Cattell, 1944; Hyperion reprint edition, 1976), p.84.

121. A. Nazaroff, 'The Soviet Oil Industry', *The Russian Review*, Vol.1, No.1 (Nov. 1941), p.89. Nazaroff bases this figure on Soviet 'official data' which, sadly, he does not cite. In 1942, German intelligence estimated that the Soviet production total for that year would be 33,000,000 tons (USAFHRA K113. 106–153 V. 11: *Der Chef des Wehrwirtschafts- und Rüstungsamts beim OKW an den Chef des Generalstabes der Luftwaffe Herrn Generaloberst Jeschonnek, Berlin, den 31.3.1942*, p.10). In Table IV of *The Science of Petroleum*, Vol.V, Part I: *Crude Oils*, W.L. Nelson gives a lower, but still tremendous, 1940 production total of 31,000,000 tons, surpassed only by the United States. On p.22 of his book *The Enigma of Soviet Petroleum: Half-Full or Half-Empty?* (London/Boston/Sydney: Allen & Unwin, 1980), M.I. Goldman gives a similar figure of 31,121,000 tons for 1940.
122. Brooks and Dunstan, *The Science of Petroleum*, p.44.
123. *Hitler's Table Talk, 1941–1944* (London: Weidenfeld and Nicolson, 1953), p.615 (entry for 5 Aug. 1942).
124. Cf. Görlitz (ed.), *Keitel: Verbrecher oder Offizier*, pp.298, 299; W. Jochmann (ed.), *Hitler, Monologe im Führerhauptquartier, 1941–1944* (Hamburg: Knaus, 1980), pp.328, 329.
125. After the war, Halder dishonestly claimed that he openly criticized the Caucasus plan. See his *Hitler als Feldherr* (Munich: Dom, 1949), pp.48ff. Adolf Heusinger, Chief of Operations in the Army General Staff and, in the post-war period, Inspector-General of the *Bundeswehr* and Chairman of the NATO armed forces, makes similar claims in his self-serving memoir, *Befehl im Widerstreit* (Tübingen/Stuttgart: Rainer Wunderlich, 1950), p.176.
126. BA/MA RM 7/259: *Mar. Verb. Offz. zum OKH (Genst. d.H.) B. Nr. 29/42 gKdos. Chefs. An das Oberkommando der Kriegsmarine – 1 Abt. Skl. – Berlin. Betr.: 'Unternehmen Suez'*.
127. BA/MA RFW 19/202: *Wi Rü Amt Stab Z/ISR, den 16. Februar 1942: 'Die deutsche Treibstoffversorgung im Kriege. Abgeschlossen um die Jahreswende 1941/42', in Auszüge aus KTB, Wi Rü Amt/Stab (nur Mineralöl betreffend), Beginn 1.5.1940.*
128. *OKW/F.H.Qu., den 6. Juni 1942, 'Wehrkraft der Wehrmacht im Frühjahr 1942'*, reproduced in Jacobsen, *1939–1945: Der Zweite Weltkrieg*, p.309ff.
129. Cf. Ludendorff, *My War Memoirs*, Vol.II, pp.658–60.
130. Quoted in B.A. Leach, *German Strategy against Russia, 1939–1941* (Oxford: Clarendon, 1973), p.146. Also see the document cited in note 55.
131. An OKM memorandum of 9 May 1941 makes the same point about there being no available transport ships because all oil tankers were fully occupied with the transport of Rumanian oil up the Danube. Cited in N. Rich, *Hitler's War Aims: the Establishment of the New Order* (London: Deutsch, 1974), p.498.
132. USAFHRA 180.642A Vol.2: *The Commander in Chief, Navy, and Chief, Naval Staff, to Naval Group South: 1/Skl 1 m 275/42 gKdos. Chefs. 23 February 1942. Subject: Operations in the Black Sea* (note: this transl. document is from Vol.II of the unpublished *Fuehrer Directives and other Top-Level Directives of the German Armed Forces*, compiled by the USAF).
133. Cf. *Report to the Fuehrer made by the C.-in-C., Navy, on the Afternoon of February, 13 February 1942*, in 'Fuehrer Conferences on Naval Affairs, 1942', pp.261–5.
134. The surplus refinement capacity of the plants at Ploesti was no secret. For example, in early 1942, British Air Ministry intelligence staff accurately calculated it to be 4,000,000 tons per year. While they noted that Germany did not have a tanker fleet sufficient to transport the oil from the Caucasus to Rumania, they did warn that it could probably also use part of Vichy France's large fleet in the Mediterranean. USAFHRA 512.607: 'German Plans for Russian Oil', *AMWIS No.134, Up to 1200 – 25 March 1942* (on microfilm 32769).
135. G.E. Blau, *The German Campaign in Russia: Planning and Operations (1940–42)* (Department of the Army, Study No.20–261a (Washington, DC: Department of the Army, 1955), pp.109, 130.
136. Halder, *Kriegstagebuch*, Vol.III, pp.420, 421.

137. Warlimont, *Im Hauptquartier*, Vol. I, p. 243.
138. *Weisung Nr. 41*, in Hubatsch (ed.), *Hitlers Weisungen*, p. 183–8.
139. Manstein, *Verlorene Siege*, pp. 214, 217.
140. Letter from Löhner to von Reichenau, dated 5 Jan. 1942, in NARS T971/18/856-883; *Erfahrungen und Auswirkung beim Einsätze der Luftwaffe im Kämpfe um Festungen (Erläutert an dem Beispiel des Kampfes um Sewastopol im Juni 1942)* (OKL, Chef Genstb. 8. Abt., Anlage zu Br. B. Nr. 1803/44 Geheime! Wien, am 16. Juni 1944).
141. USAFHRA K113.309-3 Vol. 3: *Deutsche Luftwaffenmission Rumänien I a Nr. 17/42 gKdos. la op 3 (LS)*, Bukarest, den 7.1.1942, 'Einsatz der deutschen Luftschutzkräfte in Rumänien 1941', Boog, et al., *Der Angriff auf die Sowjetunion*, pp. 1052, 1053.
142. NARS T405/49/4888179: *Deutsche Luftwaffenmission Rumänien Qu. Br. Bericht Nr. 1572 gKdos. III. Ang., den 18. Juli 1941: 'Belegungsübersichte Rumänien, Stand: 18.7.1941'*.
143. R. Muller, 'Germany's Satellite Air Forces: Coalition Air Warfare on the Eastern Front, 1941–1944', paper presented to the Conference of the Society for Military History, Kingston, Ontario, May 1993.
144. BA/MA RL 9/62: *Deutsche Luftwaffenmission Rumänien Führ. Abt. la Nr. 1841/41, gKdos, Bukarest, den 14.12.1941. Betr.: Bericht über Luftverteidigung Ölgebiet Rumänien*.
145. USAFHRA K113.309-3 Vol. 3: *Deutsche Luftwaffenmission Rumänien la Nr. 17/42, la op 3 (LS)*, gKdos, Bukarest, den 7.1.1942: 'Einsatz der deutschen Luftschutzkräfte in Rumänien 1941', p. 153.
146. Weinberg, *A World at Arms*, p. 411.
147. Domarus, *Hitler: Reden und Proklamationen*, Vol. IV, pp. 1865–77, (esp. pp. 1872, 1873).
148. *Ciano's Diary*, p. 460 (entry for 27 April 1942).
149. *Ibid.*, p. 462 (entry for 29 April 1942).
150. BA/MA RM 7/259: *Bericht über Besprechung am 30.4.1942. Ort: Berghof. Diensttuender Adjutant: Generalmajor Schmudt. gKdos. Gegenstand: Der Führer bespricht die militärische Lage*.
151. USAFHRA K113.106-153: *Der Inspekteur des Luftschutzes Az. 41 Nr. 2099/42 g., den 21.8.1942, 'Schäden auf den Ölfeldern von Maikop und Krasnodar'*, gez. Knipfer. Although most wells at Maikop were permanently destroyed when concrete was poured down the bores, two were 'capable of further use' and another, after the fires were extinguished, also looked hopeful.
152. W. Murray, *Strategy for Defeat: the Luftwaffe, 1933–1945* (Air University, Maxwell AFB: Airpower Research Institute, 1983), pp. 272–3.
153. M. Cooper, *The German Air Force, 1933–1945: an Anatomy of Failure* (London: Jane's, 1981), p. 349.
154. K. Bartz, *Swastika in the Air: the Struggle and Defeat of the German Air Force, 1939–1945* (London: Kimber, 1956), p. 184.